REPORT
ON FINANCIAL STABILITY

JUNE 2003

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CONTENTS

ASSESSMENT OF FINANCIAL STABILITY 6

I. MACROECONOMIC INDICATORS, SPRING 2003 9

I. 1 THE GLOBAL BUSINESS CYCLE AND INTERNATIONAL FINANCIAL PROCESSES 11
I. 2 DOMESTIC FINANCIAL MARKETS 15
I. 3 GROWTH AND INFLATION 21
I. 4 EXTERNAL EQUILIBRIUM 24

II. STABILITY OF THE BANKING SECTOR 27

II. 1 RISKS UNDERTAKEN BY NON-FINANCIAL CORPORATIONS 32
II. 2 RISKS IN LENDING TO HOUSEHOLDS 40
II. 3 PORTFOLIO QUALITY 46
II. 4 MARKET RISKS 49
II. 5 BANKING SECTOR LIQUIDITY 53
II. 6 FINANCIAL POSITION AND CAPITAL ADEQUACY 55
II. 7 PROFITABILITY 58

III. THE ACTIVITIES OF SAVINGS COOPERATIVES IN 2002 63

III. 1 MARKET SHARE, CAPITAL POSITION 65
III. 2 LENDING ACTIVITY, PORTFOLIO QUALITY 67
III. 3 PROFITABILITY 69

IV. NON-BANK FINANCIAL INTERMEDIARIES 71

IV. 1 INVESTMENT FUNDS 75
IV. 2 PENSION FUNDS 77
IV. 3 LIFE INSURERS 80
IV. 4 FINANCIAL ENTERPRISES 82

V. OPERATIONS OF AND RISKS IN INTERBANK PAYMENT AND SETTLEMENT SYSTEM 87

VI. CURRENT TOPICS RELATED TO STABILITY 93

VI. 1 COPING WITH THE SPECULATIVE ATTACK AGAINST THE FORINT'S BAND 95
VI. 2 REGULATIONS ON CONSOLIDATED SUPERVISION IN THE LIGHT OF THE RELEVANT AMENDMENTS ADOPTED IN SPRING 2003 108
VI. 3 PATTERNS OF FINANCING – FINANCIAL ACCOUNTS IN HUNGARY 114
VI. 4 HUNGARY'S EXTERNAL BALANCE BETWEEN 1991–2002 BASED ON FINANCIAL ACCOUNTS DATA 118

VII. ARTICLES 123

VII. 1 RISK MANAGEMENT AT BANKING GROUPS IN THE HUNGARIAN BANKING SYSTEM 125
VII. 2 THE DOUBLE CHALLENGE THAT COOPERATIVE OWNERSHIP AND INTERNATIONAL CAPITAL REGULATIONS POSE TO THE COOPERATIVE SECTOR 144

INDEX OF CHARTS AND TABLES 156

The Act on the Magyar Nemzeti Bank lays down the basic tasks of the central bank, which include promoting the stability of the financial system. A fundamental requirement for maintaining and promoting financial stability is that the parties involved have access to a wide range of information on the financial system as a whole, its competitive environment, and the narrower and broader conditions for its operation. The Magyar Nemzeti Bank's main objective with the publication of this semi-annual 'Report on Financial Stability' is to meet this requirement, harmonising with the practice of other central banks. Other important objectives of the Bank are to inform the professional public regarding the state of the country's financial intermediary system and to provide assessments of the sector's stability in the light of important domestic and international developments.

In the Report, the Bank seeks to publish the latest statistical data, widely used internationally, which describe the state and robustness of the financial system in a manner that enables comparison whenever possible. Furthermore, the Bank intends to provide comprehensive analyses of the position of the sectors participating in financial intermediation or influencing its stability, in addition to evaluating macroeconomic developments. In view of the fact that, as a small, open country, Hungary is closely integrated into the international flows of goods and capital, the Report gives separate coverage of global cyclical and monetary developments relevant for financial stability.

ASSESSMENT OF FINANCIAL STABILITY

At its meeting on 26 May 2003, the Monetary Council discussed and approved for publication the Report on Financial Stability. The major findings of the Report are summarised below.

In January, speculators mounted an attack to force a shift of the intervention band. The MNB's presence in the foreign exchange market contributed to stabilising the situation.

From the perspective of stability, the most important events of the past six months have been related to the speculative inflow of capital in January. The attempt, aimed at putting pressure on the authorities to make a shift in the upper limit of the intervention band, was unjustified, causing losses to speculators. After the inflow of speculative capital, the MNB's presence in the foreign exchange market helped normalise market processes and stabilise the exchange rate. As soon as the vast majority of the capital flowing in during the speculative attack had left Hungary, the Bank ended its operations in the foreign exchange market and returned to the normal course of business, which was to influence exchange rate movements mainly through changes to official interest rates. As during the period preceding the January speculative attack, in the future the Bank will only conduct interventions in cases of market disturbances.

Lower interest rates do not pose a threat to stability.

The Bank has lowered its major policy rate by 300 basis points in the past six months, in order to stabilise the position of the exchange rate within the intervention band. Current interest rates, lower in comparison with those of previous years, do not add to risks to stability in the current phase of the business cycle. Over the longer term, domestic real interest rates may speed up the recovery of investment demand and contribute to a price bubble developing in either the real property or the share market, provided the outlook for growth improves.

Growth in domestic demand is unsustainable.

The cyclical position of export markets determines the growth opportunities of the Hungarian economy. An increase in demand, outpacing export growth, has helped the Hungarian economy to gather momentum in the past two years. But this path is unsustainable, as it leads to higher macroeconomic imbalance. The slow adjustment of wages and, as a result, the deterioration in corporate profitability may lead to a rise in unemployment.

The increasing borrowing requirement of corporate fixed investment requires fiscal adjustment.

If economic performance and firms' investment demand pick up, the external financing requirement may rise. This can be counterbalanced mainly by reducing fiscal policy's borrowing requirement, as the pattern of wealth developing in the household sector may result in a permanently low saving rate. Therefore, the sustainability of Hungary's external equilibrium makes it necessary for general government to curb its borrowing requirement in the coming years. If the net borrowing requirement of general government remains high, the public sector debt-to-GDP ratio may rise above 60%, the allowable maximum in the Maastricht convergence criterion.

Debt-creating inflows finance the current account deficit.

The financing structure of the current account has undergone a transformation, due to changes in the financial position of sectors. Simultaneously with firms' investment activity, the inflow of direct investment capital and foreign borrowing by the sector have slowed down. Parallel with this, the percentage share of portfolio investments, and purchases by non-residents of long-term government securities in particular, have risen within financing.

The banking sector is stable and profitable.

The Hungarian banking sector featured stable and profitable operation in 2002. Measured by the balance sheet total-to-GDP ratio, the depth of financial intermediation continues to lag behind that in the European Union, similar to other Central East European countries. Favourably, financial intermediation, measured by the loans-to-GDP ratio, has deepened as a result of a strong expansion of lending.

Corporate sector debts do not carry risks.

Non-financial corporations reduced their fixed investment activity in 2002 and they continued to run down their stocks as well. From 2002 Q2, firms have been in a net

lending position. Capital leverage decreased somewhat, after rising in the previous two years. In the Council's view, the sector's indebtedness does not carry risks.

Lending to SMEs is robust.

There was an upsurge in outstanding loans to small and mediumsized companies in 2002. The sector's rising demand, improvements in its profitability and credit rating as well as the Government's subsidy system are behind this development, in addition to the saturation of the market of large companies.

Household real income grew and the saving rate fell in 2002.

Real net income rose at a robust rate in 2002. In addition to steady growth in consumption, accumulation expenses increased, due to the extension of the housing subsidy system. Income growth, serving as a source of savings, only partly offset the rise in outstanding borrowing, which led to a fall in the saving rate. Indebtedness and the interest rate burden of households increased. However, the increase in the relative interest burden is lagging behind the expansion of outstanding loans. This is due mainly to the increasing share of subsidised housing loans.

Residental mortgage loans are rising dynamically.

Bank lending to households has been rising at an increasingly dynamic rate, with a 70% surge in 2002. The very strong, 165% rise in housing mortgages in the review year was the result of the expansion of Government subsidies towards used home purchases. This extremely robust increase did not cause a wholesale rise in real property prices, as the house market picked up simultaneously. Taking into account the higher coverage ratio of loans and the acceptable rate of price increase, the risk carried by this price bubble is not seen as excessively high, despite the expansion of lending.

Loans to the corporate sector are deteriorating slightly; those to households are improving.

Due to the slowdown in domestic and international economic activity as well as the shift towards small and medium-sized companies, the risks in lending to the corporate sector have increased in the past 1–2 years. As expected, the percentage share of non-performing loans has risen. On balance, however, there has only been a slight deterioration in portfolio quality. Perception of risks in lending to households has improved, due to the sector's favourable income position and the Government's housing subsidy scheme. This is reflected in household loan portfolio quality as well.

The banking sector's market and liquidity risks do not threaten financial stability.

The re-pricing period of the banking sector lengthened on the assets side, due to higher volatility of interest rates. This may cause wider fluctuations in interest income over the short term, but, assuming the long-term downward trend of interest rates continues, it may affect profitability positively. Faced with increased exchange rate volatility around mid-year, banks reduced their exposure to exchange rate risk. This, however, remains insignificant. Maturity transformation intensified initially, but stopped increasing in the second half, due to rising issuance of mortgage bonds. On balance, banking sector liquidity continues to be adequate.

Capital position is stable and profitability is high.

The sector's capital position continues to be stable, with a high capital adequacy ratio. Profitability has been improving for several years. The number of loss-making banks and their market share both fell. One source of profitability, realised on consumer credit, is interest margin, which is high even by international standards. However, in addition to a modest increase in interest income, the strong rise in banks' commission and fee income reflected shifts in the profile of incomes.

Savings cooperatives are facing unchanged risks.

Savings cooperatives have been growing at a higher rate than banks for several years. In 2002, their portfolio quality was much worse than that of the banking sector. Equity growth was slower than growth in the balance sheet total, as seen in most of the previous few years. The capital adequacy ratio fell. Most of the risks facing the sector arise from more lenient regulations relative to the banking sector, small individual size of business and lack of close integration.

Institutional investors continue to gain ground.

Institutional investors, including investment funds, pension funds and life insurers, continued to increase their share in rechannelling household and corporate sector

savings. The substantial risks facing pension funds were mitigated significantly by the consolidation process of the past few years.

Car purchase finance by financial enterprises jumped in 2002.

Financial enterprises specialised in lending, leasing and factoring can build up equally risky portfolios on the assets side as can banks. However, the statutory rules relating to measuring and managing risk by enterprises are much less stringent. Alleviating these risks, most of them are owned by banks, so rating, product development, loan assessment and provisioning are based on more or less the same principles as those of the parent banks.

Robustly rising settlement transactions were executed smoothly in the review year.

The payment and settlement systems operated smoothly in 2002. Operational reliability of the systems improved. The payment and settlement systems were able to transact turnover efficiently, despite less ample liquidity compared with earlier years. Development projects were implemented to maintain stability and improve efficiency. With the instalment of VIBER's hot back-up system, the MNB contributed to strengthening operational reliability.

Group regulation serves financial stability.

The proposed law amendments, affecting the regulation of financial conglomerates on a consolidated basis, are of prime importance for financial stability, as they allow assessing and controlling financial conglomerates as one entity. The amendments are aimed at increasing the transparency and controllability of financial conglomerates' relationships and risktaking.

I. Macroeconomic indicators, spring 2003

I. 1 THE GLOBAL BUSINESS CYCLE AND INTERNATIONAL FINANCIAL PROCESSES

As Hungary is a small, open convergence economy with liberalised capital markets, global economic and financial developments are crucial to the country's economic growth and stability.

Exports account for over one-half of Hungarian GDP. As the majority of exports are directed to EMU countries, in particular to Germany, the German business cycle and economic outlook have a direct impact on growth in Hungary. Nevertheless, as economic developments in the US remain the most decisive in terms of a recovery of global business activity, an analysis of such developments is indispensable owing to their indirect impact via the EMU economies.

International capital markets play a key role in financing the convergence of the Hungarian economy. Thus, international investors' risk appetite-influenced in equal measure by global, regional and local events-affects domestic financial developments profoundly. Hungary's EMU entry has led international investors to open financial positions which they believe will yield lucrative profits. The 'convergence play', which is growing increasingly popular as the date of entry grows ever nearer, as well as information and news on accession-related prospects of interest to investors participating in such a play, are likely to have a decisive impact on capital flows, the exchange rate and interest rates.

THE GLOBAL BUSINESS CYCLE

Although the global economy has numerous signs of recovering, the expected robust and balanced upswing is yet to come. As in previous years, this year again opinion-leader international organisations have revised down their growth projections for 2003. The economic recovery is now not predicted to start sooner than next year, and even so, odds are that further *downward* revision of projections will have to be made. Lowering its earlier projection by 0.5 percentage point,[1] the IMF now expects global economic growth of 3.2% and 4.1% in 2003 and 2004, respectively. As the data in *Table I-1* show, the US economy will remain the engine of global economic growth in the years to come, while the eurozone, including Germany in particular, which directly influences Hungarian export demand, is likely to experience a slower recovery.

The beginning and rapid end of the war in Iraq eliminated a major risk factor. The current price of oil, which is much lower than prior to the war,[2] is no longer an obstacle to a continuation of the global recovery. By increasing the uncertainty of global economic perspec-

Table I-1 Global and regional growth rates

	2001	2002	2003*	2004*
Global economy	2.3	3.0	3.2	4.1
Euro area	1.4	0.8	1.1	2.3
USA	0.3	2.4	2.2	3.6
Japan	0.4	0.3	0.8	1.0
CEECs	3.0	2.9	3.4	4.3
Latin America	0.6	–0.1	1.5	4.2

Source: IMF (2003): World Economic Outlook, April.

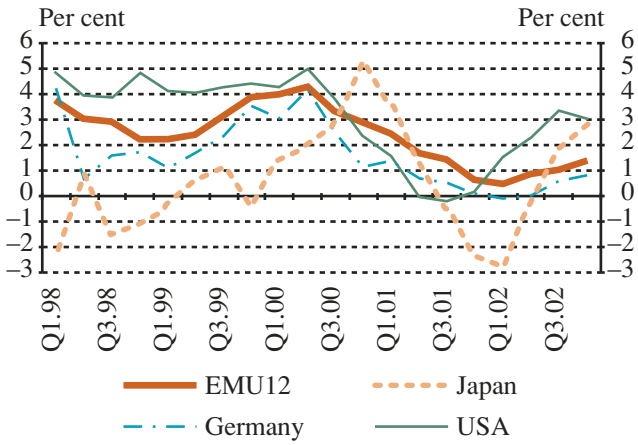
**Projection.*

[1] It has also lowered its projections for the US and Japan, in line with its global projection, while revising down those for the EMU countries, especially Germany, to a larger extent, by 1.2 percentage points.

[2] In addition to the uncertainty surrounding the war, the price of oil was also influenced by political mayhem in Venezuela and Nigeria which diminished supply, a colder than average winter which pushed up demand in certain regions as well as a low level of the oil reserves in OECD countries.

tives, a long drawn-out war would also have affected consumer and business confidence adversely. Although consumer and business confidence is shaped by several other factors as well, initial signs indicate that the quick conclusion of the conflict boosted consumer confidence and, to a certain extent, also business confidence in the USA. However, no improvement of confidence has been experienced in Germany so far. The emergence of a new virus responsible for the severe acute respiratory syndrome (SARS) has added to uncertainty in the global economy. While it is difficult to assess the economic consequences of SARS currently, it is certain that its final impact will depend to a great degree on how well health authorities are able to contain the spread of the virus. The adverse economic effects of the virus are, for the time being, confined to Asia, especially to mainland China and Hong Kong, where they have primarily affected the air traffic, tourism and retail sectors.

Chart I-1 **Real GDP growth (Annualised seasonally adjusted figures)**



Last year, the US economy grew by 2.4%. Although the business cycle is also projected to remain upwards, the rate of growth is uncertain due to numerous factors. Excess capital stocks accrued during the previous upswing and the level of debt seem to cause difficulties for companies. The bursting of the IT bubble and the nose-dive in stock prices after a series of corporate fraud scandals have both sapped households' financial wealth significantly. By contrast, increasing real wages and a moderate decline in employment has helped stabilise the financial position and outlook of households. This, combined with increasing property prices, low-priced loans and tax cuts, has ensured that household consumption demand was able to remain the driving force behind economic activity. However, the fact that the rate of household savings is currently below its historical average is another risk factor. It follows that the anticipated steady return of the rate to its average value may well deter consumption growth. The recent strong depreciation of the US dollar may also contribute to an increase in exports, thereby reducing the high current account deficit and supporting the recovery.

Economic growth in the euro area is substantially lower than expected. It is still below 1%, due mainly to the German economy that has been ailing for some time now. Last year saw the German economy stagnating, with a setback in consumption and fixed investment counterbalanced only by expanding exports. There is some indication, however, that Germany has already overcome the downturn in business activity, and that stagnation projected for 2003 is likely to be followed by some recovery in 2004. In effect, recovery in Germany greatly depends on rising export demand driven by the global, especially US, business cycle. This is particularly true because productivity growth which is lower than it is in the US, together with an inflexible labour market, which makes adjustment harder and corporate profit outlook bleaker, and excess capacity all combine to delay any major expansion of fixed capital investment demand. Furthermore, there are also some signs that the slightly weaker position of the banking sector is restricting the amount of credit available to companies. Though the increase in consumption is backed by higher real wages and automatic stabilisers in fiscal policy, subdued consumer confidence and rising unemployment still retard consumption growth.

While both monetary and fiscal measures have contributed to easing the downturn in business activity, this has also reduced economic policy's room for manoeuvre in the event that further adverse developments need to be offset. The US Federal Reserve Bank lowered its key policy rate to 1.25%, and the US budget deficit exceeded 3% of GDP in 2002. As inflationary pressure eased owing to the appreciation of the euro and a drop in demand, and in response to downturn in business activity, the ECB lowered its key policy rate to 2.5% on 6 March. In addition to moving the real interest rate[3] effective in the euro area[4] to roughly the same level as in the USA, in the ECB's opinion this move also makes it possible for inflation to approximate the projected 2% target,[5] and for monetary policy to support a revitalisation of business activity to the best of its ability. In some countries (Germany, France and Portugal), any further use of

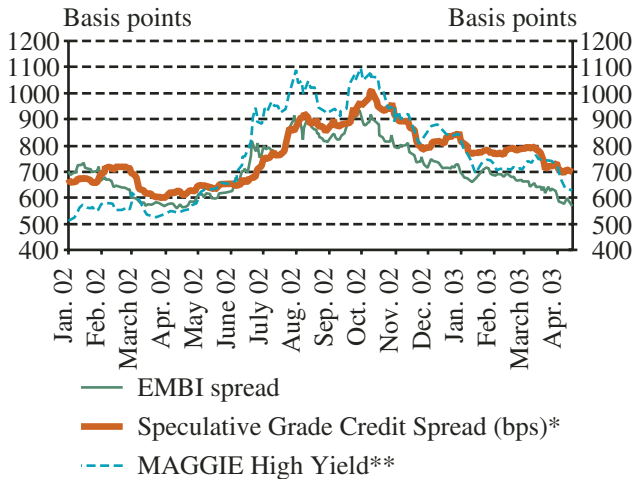
[3] Both contemporaneous short and long-term real interest rates.
[4] Differences in inflation in member states also cause differences in real interest rates.
[5] On 8 May, the ECB published the results of several months of revision of its targets, which in effect reaffirmed and further clarified the Bank's previous objectives. Pursuant to this, the Bank defines price stability in the medium term as an inflation rate 'approximating, but not exceeding 2%', which does not represent any change in earlier targets, but which explicitly reflects the Bank's commitment to avoiding deflation. A further change is that it will publish its considerations for growth in M3, i.e. the other pillar of its two-pillared system, as a conclusion of its supportive argument for its decisions in order to send the message that it employs monetary aggregates to assess mid-term processes.

fiscal stabilisers is restricted as the deficit, owing to the high structural deficit, is above the 3% threshold level set forth in the Stability and Growth Pact. Thus, fiscal consolidation that should have occurred over the past years forces the governments in question to reduce budgetary deficit at a time when demand is, in effect, stagnating.

GLOBAL FINANCIAL MARKETS

Risk aversion has steadily declined on financial markets over the past six months. By April, the EMBI interest rate premium, which best reflects the risk appetite of investors in emerging-country securities, had dropped below 600 basis points, a very low level compared to average value over the past several years. The decline since 2002 Q3 has also affected the risk premium on riskier European and American bonds. The increase in demand for riskier bonds was fuelled by a poorly performing global equities market, low US and European interest rates and a tentative upturn in global business activity boosting risk appetite. In addition to the above factors, the risk premium was further influenced by improved risk perception of certain emerging economies (e.g. Brazil and Turkey). Contrary to expectations, the uncertainty surrounding the war on Iraq did not push up the risk premium, which may also be attributed to the fact that some of the emerging markets are also oil exporters, with their respective economies benefiting from high oil prices. The quick course of the war in Iraq led to a further decline in the risk indicators. While the uncertainty caused by the SARS virus increased the risk premium and sent stock exchange indices spiralling down in the financial markets of the areas affected by the epidemic; it had no ripple effect on international financial markets.

Chart I-2 Global risk indicators



* S&P Speculative Grade Credit Spread (basis points).
** MAGGIE – A euro-denominated index calculated by JP Morgan-Chase which covers government and corporate bonds as well as mortgage securities (in basis points).

Uncertain global economic and geopolitical developments, feeble stock markets and the noisy corporate fraud scandals of recent years have all contributed to a marked rise in liquid assets within investors' portfolios.[6] Once this uncertainty subsides, the accumulated amount of money is likely to seek investments offering more lucrative returns, as can already be seen on the financial and corporate bond markets of emerging countries. A reversal in this process may, however, pose serious risk to stability. Over past decades, expectations of increases in interest rates in developed countries have often led to moderate demand for high-risk investments with considerable related fluctuations in both interest rates and exchange rates.

While the downturn in global business activity and plummeting stock exchange prices have certainly had an adverse impact on the financial sector in developed economies, the financial system continues to be stable. If, however, the global economy takes too long to recover, the risk to the stability of the financial system could increase significantly. In particular, the current state of the German banking system gives cause for concern. Its problems are caused by the country's stagnating economy, low profitability owing to structural factors and deteriorating loan portfolio caused by an increasing number of corporate bankruptcies. The decline in the risk tolerance of German banks and low business confidence have also contributed to rather moderate growth in lending by German banks.

REGIONAL FINANCIAL PROCESSES

News about EU accession and EMU has a fundamental impact on both domestic and regional financial developments. The resolution announced in October and passed at the Copenhagen summit in December dispelled all uncertainty as to which countries were to join the EU and the date of their accession. Risk premia decreased as a result. As market participants seemed to expect Hungary to join smoothly, neither the referenda in Malta, Slovenia, Hungary and Lithuania, nor the signing of the Accession Treaty had any discernible impact on exchange and interest rate fluctuations. Another remarkable fact was that, contrary to earlier experience, the uncertain political climate in Poland and the Czech Republic left the forint's exchange rate unaffected for the most part.

The risk perception of these countries is also fundamentally influenced by their EU accession and the outlook for entry into EMU. The key issue of convergence in the entire region will be fiscal adjustment, as a number of accession countries (among them the Czech Republic, Poland and Hungary) are running high general government deficits. Currently, upcom-

[6] This is the explanation the ECB provided as to why M3 had grown well in excess of the 4.5% benchmark value.

ing EU accession and EMU entry reassure investors that these countries will pursue a sustainable fiscal policy. Investors feel that high deficits, combined with an unfavourable growth outlook, diminish the chances that fiscal convergence criteria, a prerequisite for EMU entry, will be rapidly met. As a result, the anticipated date of entering EMU may well be postponed. Uncertainty surrounding the date of EMU entry may lead to exchange rate depreciation and rising interest rates, and makes the risk perception of the country in question more fragile during contagious attacks.

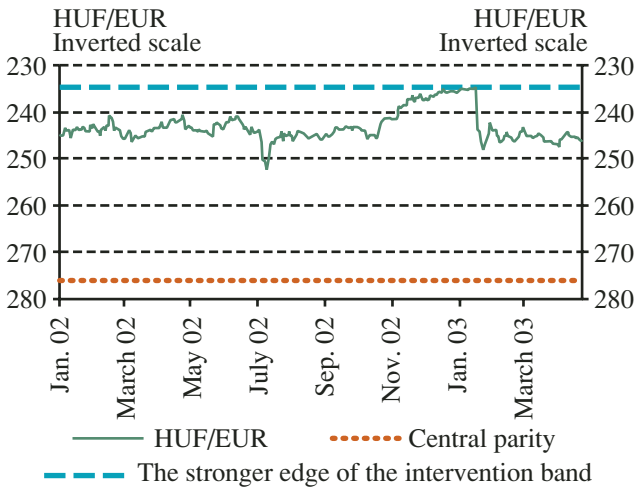
I. 2 DOMESTIC FINANCIAL MARKETS

Over the past six months, developments on Hungary's financial market have been shaped considerably by the inflow of speculative capital. A detailed analysis of the January speculative attack against the forint's band has been included as a separate study in this *Report*. In accordance with the structure of the chapter, this section only discusses its impact on the financial market, in particular, the forint's exchange rate and yields.

THE FORINT'S EXCHANGE RATE

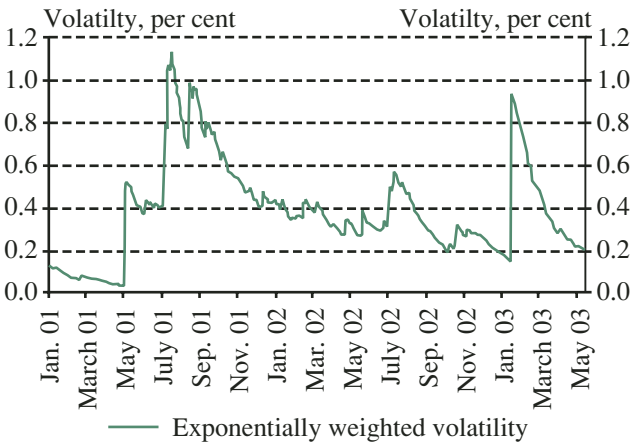
The forint's exchange rate generally fluctuated around EUR/HUF 240–245 last year, but from November onwards it appreciated considerably, reaching the upper limit of the band in the first two weeks of January 2003. On 15 January 2003, a speculative attack was mounted against the forint's band. The MNB purchased considerable amounts of euros during the two days of the attack, in order to prevent the market rate from further appreciating. After the speculative attack, the exchange rate bounced back to EUR/HUF 245. Regional and global events, such as the government crisis in Poland with the related substantial depreciation of the zloty as well as the war on Iraq, only led to minor exchange rate fluctuations.

Chart I-3 The EUR/HUF exchange rate



The stability of the forint can be attributed to two factors. First, in its February 2003 *Quarterly Inflation Report* the MNB made it clear to the market that, following the speculative attack, it could no longer support achievement of the inflation target for 2004 by further intra-band appreciation of the forint. Second, the Bank's enhanced activity on the FX market also helped stabilise the forint's exchange rate.

Chart I-4 Exchange rate volatility



Analysts included in a Reuters poll conducted immediately after the depreciation of the exchange rate said they had not been expecting the exchange rate to return to the strong edge rapidly. Nevertheless, appreciation expectations have been tangible since late January. According to the April survey the exchange rate is expected to be approximately EUR/HUF 240 at end-2003 and at an exchange rate near the strong edge of the band, at EUR/HUF 235–240 at end-2004.

YIELDS

When examining yields, it is expedient to treat short and long-term yields separately. While a considerable drop in yields has materialised in the short, up to 3-year section of the yield curve since last November, a 20–30 basis point increase in implied forward yields at an over three-year horizon suggests that investors' expectations of any changes in monetary policy over that horizon has not changed substantially. As a result of stable long-term and falling short-term yields, the yield curve has become almost flat.

Chart I-5 Variations in the forint's exchange rates and analysts' related expectations

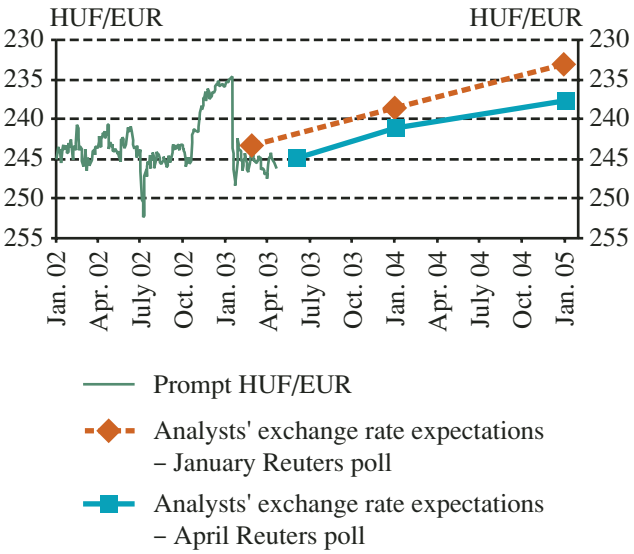
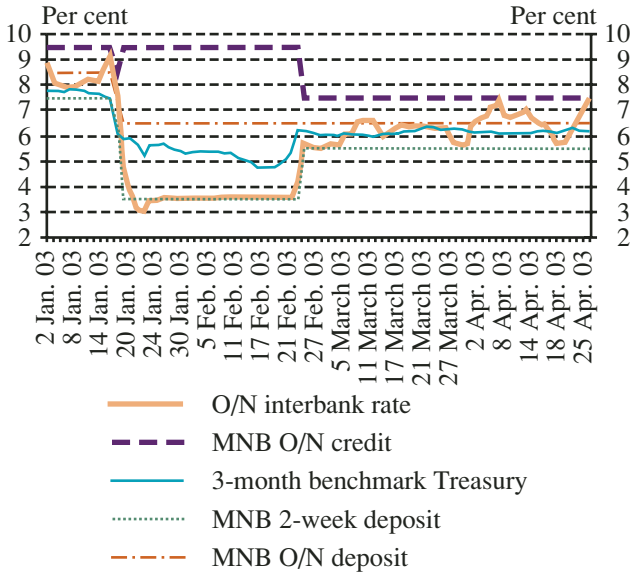
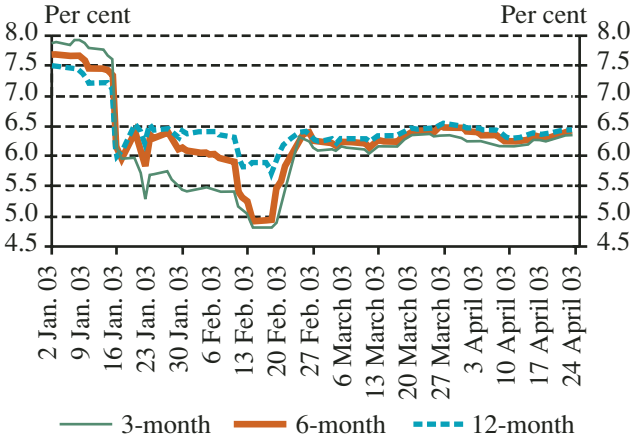


Chart I-6 The MNB's key policy interest rates and money market returns



The reason for the decline in short-term yields is that when the forint's exchange rate is approaching the upper limits of the band, the Bank has to cut the premium on forint investments in order to ensure that the forint's exchange rate can stabilise within the band. To offset the forint's appreciation after the Irish referendum, the Bank successively reduced its key policy rate by 300 basis points. Market participants built in a considerable drop in yields in their respective prices immediately after the Bank's first 50 basis point interest rate cut on 18 November; however, no change in short-term yields occurred between the Bank's further 50 basis point interest rate cut on 16 December and mid-January. The Bank responded to the influx of speculative capital by slashing interest rates – during the two days of the speculative attack it lowered the interest rate on the two-week deposit facility, its main policy instrument, by 200 basis points, to 6.5%. However, effective interest rate cuts by the Bank were greater than that, as quantity restrictions were also imposed on the two-week facility. Thus, excess liquidity could only be channelled into O/N deposits that continued to be freely available. The widening of the overnight interest rate corridor from ±1% to ±3% also entailed a drop in yields on the O/N deposit facility with a temporary 500 basis point decline in effective yield. At its meeting of 24 February, the Monetary Council decided to remove the quantity restrictions imposed on the two-week deposit facility earlier and restore the overnight interest rate corridor to ±1%, i.e. the width prior to the speculative attack. This move restored the Bank's instrumental framework to its state prior to the attack, and the 6.5% interest rate on the two-week deposit facility resumed its role as the Bank's key policy rate.

Chart I-7 Benchmark yields on government securities with less than one-year maturity



Compared to earlier major yield fluctuations, long-term benchmark yields have hardly changed in the past weeks. The yields established after the speculative attack have stabilised. This segment of the yield curve is mainly shaped by convergence investors.

CONVERGENCE SPECULATION

The process of convergence, a pre-condition of EMU entry, reduces the risk premium on forint investments substantially. Investors involved in what is termed as the 'convergence play' intend to earn profit from the above process by investing, as a rule, foreign capital in forint-denominated, fixed rate and, generally, long-dated securities. Convergence investors' behaviour and expecta-

Chart I-8 Benchmark yields on the government securities market

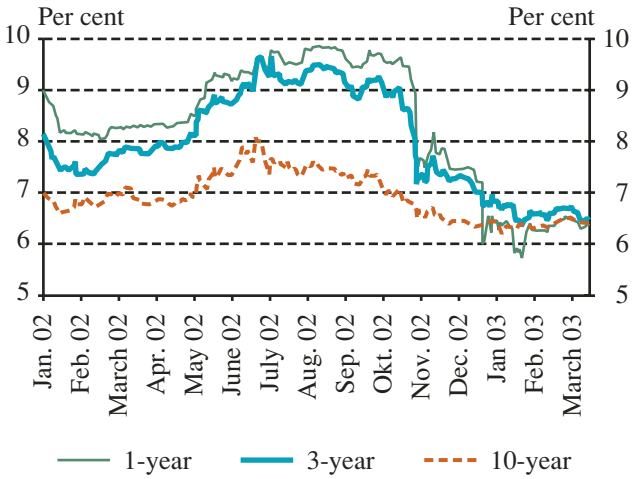
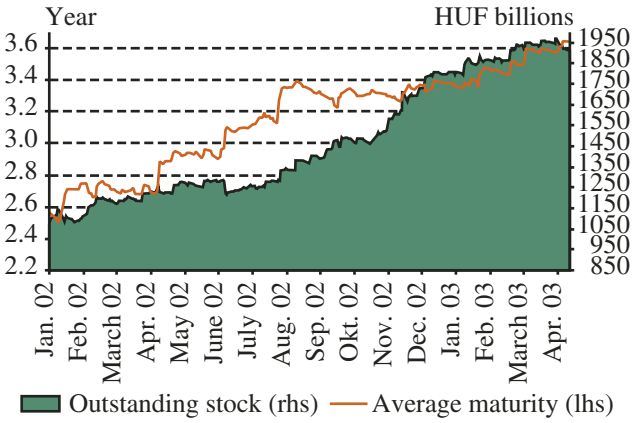


Chart I-9 Non-residents' holdings and average maturity of government securities



tions are likely to have a decisive impact on capital flows as well as the exchange rate and interest rates during the period leading to EMU entry.

There is some indication of the presence of convergence investors and their marked influence on financial processes in Hungary. Although, as a rule, Hungarian market actors, too, can participate in the convergence play, non-resident investors' purchases of Hungarian bonds provide an clearly traceable pattern of convergence investments. As *Chart I-9* reveals, spurred on by the favourable outcome of the Irish referendum and the EU decision on accession, non-residents have been increasing the size of their bond portfolio. Likewise, the average maturity of the bond portfolio held by non-residents has increased, also indicating the speculative nature of investments related to convergence.[7]

Convergence-related speculation may result in long-term interest rates being determined by factors that convergence investors deem to be important, i.e. by expectations of the date of EMU entry,[8] the exchange rate upon entry[9] and the interest rate path before the entry.[10] Thus, fundamental factors affecting the exchange rate and exchange rate premia, such as current fiscal and current account deficits, are only of secondary importance in terms of variations in yields. The reason why-in investors' point of view-fiscal and current account deficits prior to entry into the EMU do not represent any immediate risk to long-term stability is that after entry the Stability and Growth Pact will rein in fiscal policy significantly, thereby diminishing the eventuality of government insolvency. Moreover, additional growth resulting from entry is also likely to alleviate the foreign debt burden. Accordingly, an even larger current account deficit may be manageable. The fiscal deficit may, however, provide material information for convergence investors on the government's commitment to fiscal convergence, therefore, it can affect the date of entry expected by such investors. A persistently high current account deficit may also affect both exchange rates and interest rates indirectly by devaluing the 'equilibrium' level of the entry rate of exchange expected by market participants and considered ideal in terms of economic policy.

The impact of convergence speculation on financial processes is also palpable in Hungary-last year the fiscal and current account deficits, permanently in excess of what market participants had been expecting, were only able to generate marked exchange rate depreciation in June 2002, when the Government's commitment to convergence was temporarily questioned by market participants. As soon as government commitment had been reaffirmed by the pre-accession programme, the exchange rate stabilised again. Though no date has been set for Hungary's EMU entry, uncertainty surrounding it is rather limited-the market is quite confident that entry will occur some time between 2007 and 2010 *(see Chart I-10)*.

[7] In the convergence play investors wish to exploit the drop in short interest rates brought about by declining risk premia, to which long-maturity investments respond by a substantial rise in bond prices, thereby earning investors more substantial profits.

[8] The anticipated date of accession influences the size of cumulated risk premium on long-maturity investments, since the factors causing a decline in risk premia, predominantly the disappearance of the exchange rate risk, will only be at work from EMU entry.

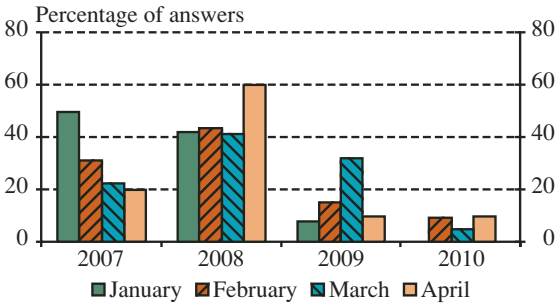
[9] The rate of exchange upon accession modifies the extent of long-term exchange rate depreciation, which in turn influences non-residents' expected return expressed in foreign currency.

[10] In addition to directly influencing the rate of exchange, the expected path of interest rates also influences the traded price of fixed-rate bonds and the return anticipated by convergence investors who plan ahead only in the short run.

EMU ENTRY-RELATED EXPECTATIONS

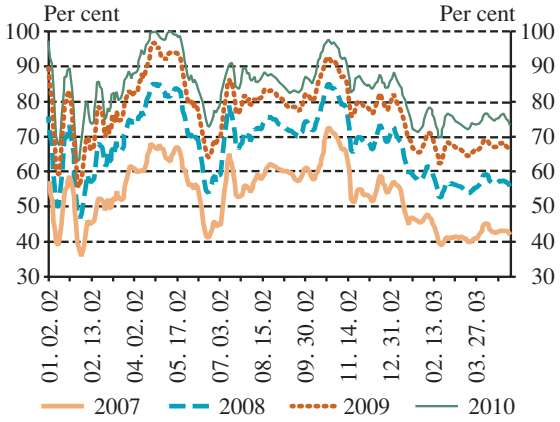
Reuters surveys of market analysts have been collecting analyst views on the expected date of EMU since January 2003. Analysts are more and more of the opinion that EMU entry will take longer than previously forecast-while in January one-half of the respondents set the date of the entry for 2007, in March and April most settled on 2008 as the most probable date and an increasing number did not rule out even 2009.

Chart I-10 **Distribution of the most probable dates for EMU entry**



Forward interest rate spreads computed from the forint and euro yield curves also point to a bleaker perception of medium-term developments, including the adoption of the euro, of participants in government securities market in the spring of 2003.

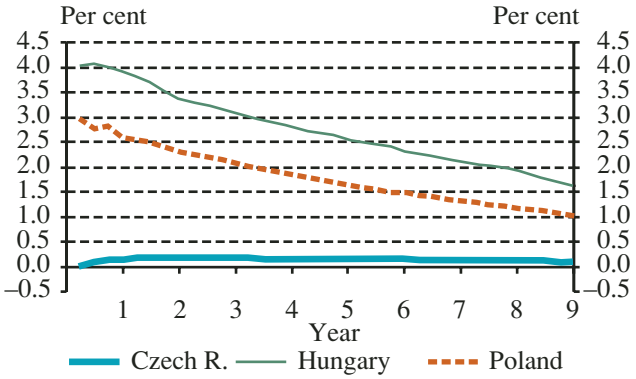
Chart I-11 **Implied probability of EMU entry in 2007, 2008, 2009 or 2010 on the basis of information on yield curves* (5-day moving average)**



** Since, due to the changeover, difference between Hungarian forint and euro area yields will fall to the level of sovereign premium as a result of the elimination of FX risk, difference in forward returns reflects decline in priced premium and, through it, market expectations of the timing of EMU entry.*

With Hungary's EU accession and EMU entry approaching, market participants are increasingly concerned with the regional comparison of convergence potential. The Hungarian yield curve is 100–150 basis points higher along its entire length than the Polish; the difference is even greater, 300–400 basis points, at the short end of the curve, in the case of the Czech yield curve.

Chart I-12 **Premium of the Polish, Czech and Hungarian spot yield curves above the euro yield curve**



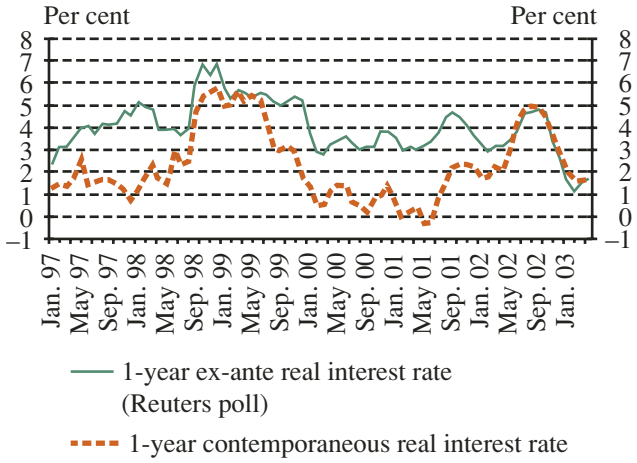
Over the past two years, non-residents have purchased long-term securities on the government securities market. Capital inflow has not pushed down long-term yields, over which the Bank can only exert indirect and marginal control. Non-residents seem to continue expecting risk compensation; thus, differences between the individual countries as reflected in the yield curve can be put down to different perceptions of exchange rate risk.[11] Most recent Reuters surveys suggest that analysts project an ERM II entry central parity of approximately EUR/HUF 245, close to the current market rate. Based on this, the probability of a higher risk premium justified by anticipated depreciation can be ruled out. At the same time, a comparison of the state of the Hungarian economy with that of other countries in the region reveals that all economic indicators point to higher exchange rate risk. Inflation in both the Czech Republic and Poland has been reduced to eurozone level. Moreover, both the Czech and Polish state debts are lower than Hungary's, which currently amounts to 56% of GDP. It grew by 3 percentage points in 2002 and is expected to grow further this year. The current account deficit is another major contributor to exchange rate premia, not only because of its size, but also because of its composition. While, unusually enough, the corporate sector has been a net saver, the public sector borrowing requirement has reached a level that is unsustainable in the long run. In 2002, it amounted to almost 9% of GDP.

[11] In practice, higher risk of insolvency in Hungary can be dismissed. Expressed in euro, its value is a mere 40-50 basis points relative to Germany.

REAL INTEREST RATES

A 300 basis point drop in nominal interest rates over the past six months has also affected real interest rate indicators. Based on the average computed from analysts' inflation expectations for 2003 disclosed in the most recent (April) Reuters survey, the one-year ex ante real interest rate is still low, currently at 1.7%. A nearly flat yield curve and a fall in inflation of less than 1 percentage point in 2004 suggest that the market is not expecting any major tightening of real interest rates as a component of monetary conditions in the years to come; the real interest rate is expected to rise slowly from its current low level. The following section examines the potential risk to stability that declining real interest rates can pose, a phenomenon that the Bank will have to monitor closely in the future.

Chart I-13 One-year real interest rates



Low real interest rates affect household behaviour through two channels. They may reduce households' willingness to save, and trigger a reallocation in their respective asset portfolios, which means that households give preference to assets providing real return over low interest-bearing bank deposits. These changes has a dual impact on stability. Declining savings rates may result in an overheated economy. Furthermore, increasing demand for loans at low interest rates and a reallocation of financial assets within portfolios may lead to price bubbles. This means that the prices of certain assets in the economy may increase to a basically unjustifiable extent that is also unsustainable in the long run. The underlying economic reason for bubbles is that 'inflating' them may even be an economically sound strategy as long as further price rises are expected. Recent global experience has proven that equities and real estate markets can be especially risky.

There is less risk inherent in changes in willingness to save and demand for loans. The current system of subsidised housing loans has resulted in the fact that declining market interest rates have left mortgage interest rates unaffected, as they are influenced dominantly by the extent of state subsidy. Accordingly, low interest rates via these channels do not place any pressure on the housing market. In terms of stability, the stock of consumer loans is of lesser importance, as the market of consumer goods is flexible, where prices are less dependent on changes in demand. A 2 percentage point decrease in interest rates has only brought about a minor change in the proportion of loans bearing generally very high (20%) real interest rates.

Reallocation of wealth usually takes longer time. Thus, for the time being, no economically justifiable estimate of its practical ramifications can be provided. In practice, reallocation pushes up demand for shares, property investment funds shares and real property, on which return is independent of nominal interest rates, generating considerable price rises. At present, financial statistics suggest that no significant increase in share prices or property investment funds shares materialised in the wake of the speculative attack of January against the forint's band. It is true that such holdings only account for a negligible part of the overall household wealth. In terms of risk, the residential market is of key importance, and, due to the very nature of the transactions on this market, reallocation is expected to take the longest here.[12]

Corporate fixed investment is influenced by real interest rates as well as business activity perspectives. Given that Hungary's is an open economy and that business activity in EU member states remains sluggish, low forint real interest rates seem to pose no danger for the time being. Precaution must be taken that the increase in domestic fixed capital investment generated by a future upswing in Europe may be further boosted by low domestic real interest rates. At the same time, low forint real interest rates are very likely to further increase forint financing as a proportion of total corporate borrowing.

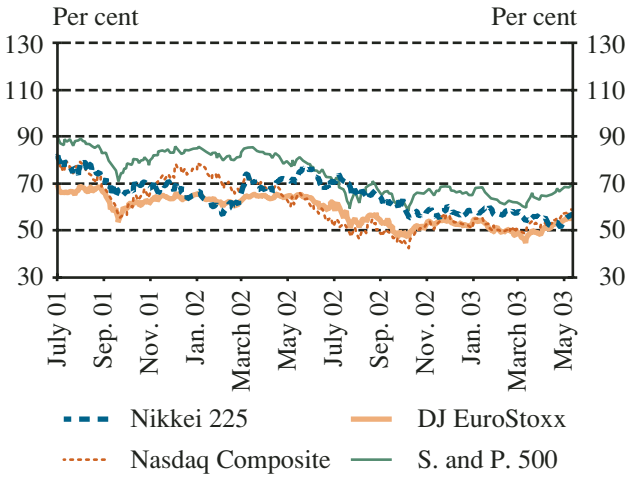
EQUITIES MARKETS

The world's major stock exchange markets have been on a roller coaster over the past six months. Although stock exchange indices increased in 2002 Q4, bullish sentiment did not last-share prices started to decline again in early 2003. The break in the stock market rally was attributable to growing uncertainty about the global recovery and world politics. Except for the Nikkei index,

[12] Data from past years indicate that household savings comprise residential property investments and financial savings to a 50–50% extent each. In the MNB's estimate based on available time series (G. Vadas, Modelling household savings and dwelling investments — a portfolio choice approach , MNB Working Papers 2003/6), a 2% decrease in real interest rates may, ceteris paribus, raise the proportion of residential investment within the entire amount of savings to around 55–60% in half a year; reallocation of such magnitude may exert considerable pressure on prices as well.

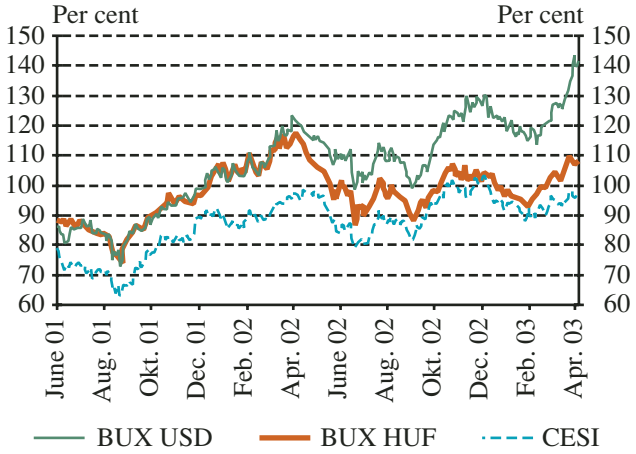
indices started to climb again from April. Nevertheless, they barely managed to reach 50%–70% of where they stood in early 2001.

Chart I-14 **Major US dollar-based stock exchange indexes (31 December 2000 = 100%)**



The Central European Stock Exchange Index (CESI) has been similarly balanced in the past half a year. It rose in the final months of 2002, only to decline by an equal measure in the first months of 2003. Of the components, only the Bratislava Stock Exchange Index has moved counter to the CESI in the last 12 months.

Chart I-15 **CESI (31 December 2000 = 100%)**



The equities market of the Budapest Stock Exchange (BSE) fell in line with global trends. The BUX rose between October and December, and a slow correction generated by global uncertainty was followed with a pick-up in April. As a result, overall, the BUX had grown by 6% by mid-May relative to December. However, the USD-denominated index, used in international comparison, was much more favourable, as the dollar exchange rate had weakened substantially. No substantial change has occurred in turnover-stock exchange market activity has continued to decline slightly over the past six months. In 2003 Q1, the average daily volume of trading was HUF 5.3 billion.

I. 3 GROWTH AND INFLATION

GROWTH PROSPECTS

There has been no major change in the composition of demand, which still represents a risk to stability, since the *Report on Financial Stability* was published in December 2002. As a small, open economy, Hungary exports over half of its GDP. Accordingly, the state of business activity on its export markets (eurozone countries, among them Germany in particular) considerably influences economic growth. The past years' slowdown in global business activity has put a brake on growth, which has, however, been offset by dynamic growth in certain components of domestic demand, such as private and public consumption and public fixed investment. Both the direct and indirect impact of fiscal policy (e.g. tax reductions and wage raises in the public sector) as well as wage raise in the private sector contributed to increase in the individual items significantly.

Rapid wage outflow in public administration and the private sector and a permanently high level of consumer confidence boosted household consumption expenditure vigorously in the second half of 2002. Although this is likely to slow down somewhat next year owing to the anticipated corporate labour market adjustment,[13] it is expected to affect the growth rate of aggregate demand considerably in 2003. Along with increasing consumption, lending to households remained buoyant in the second half of 2002. Thus, the level of the household sector's indebtedness continued its adjustment to those of fully-fledged market economies. Subsidised interests on loans for home construction and the purchase of flats and houses, which both reduce household interest burden and make it predictable, also contributed to growth in lending to households significantly.

The sectoral breakdown of fixed investment activity *(see Chart I-16)* reveals that household fixed investment, which mainly materialises as housing construction, continued to be vigorous. By contrast, following a sharp rise in 2002 H1, government fixed capital investment fell back roughly to the level that it had reached in the final months of the previous year. Corporate fixed capital investment declined the whole year through. Con-

Table I-2 **Annual rate of growth of GDP and its components (Percentage changes on a year earlier)**

	Fact				Projection	
	1999	**2000**	**2001**	**2002**	**2003**	**2004**
Household consumption	4.8	5	5.3	8.8	6.3	4.4
Household consumption expenditure	*5.6*	*5.5*	*5.7*	*10.2*	*6.6*	*5*
Social benefits in kinds	*1.6*	*2.8*	*3.8*	*3*	*4.7*	*1.9*
Public consumption	1.8	1.2	4.9	1.5	1.5	2
Fixed capital investment	5.9	7.7	3.5	5.8	4	4.3
Gross investment	6.2	4.4	–6	–1.4	2.9	4.8
Domestic use	**4.9**	**4.4**	**1.9**	**5.1**	**4.9**	**4.3**
Exports	12.4	21	8.8	3.8	3.4	6.7
Imports	13.3	19.4	6.1	6.1	5.3	7.4
GDP	**4.2**	**5.2**	**3.8**	**3.3**	**3.4**	**3.6**

[13] Corporate labour market adjustment is likely to materialise as wage growth declines and unemployment increases.

currently, corporate demand for bank loans dropped off (see Chart I-17). As a result, companies, which were net borrowers in the previous year, became net lenders in 2002.

Chart I-16 **Sectoral breakdown of fixed capital investment activity**

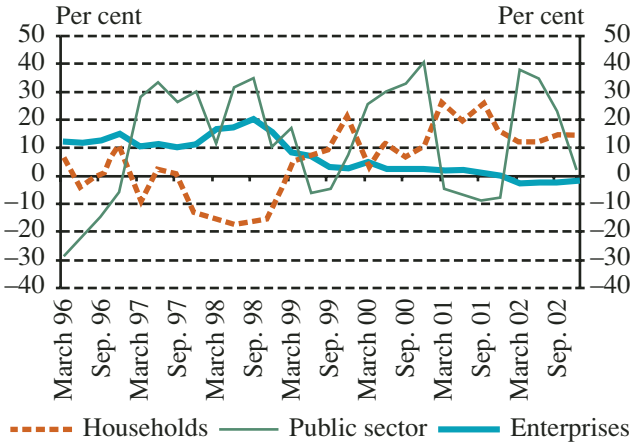
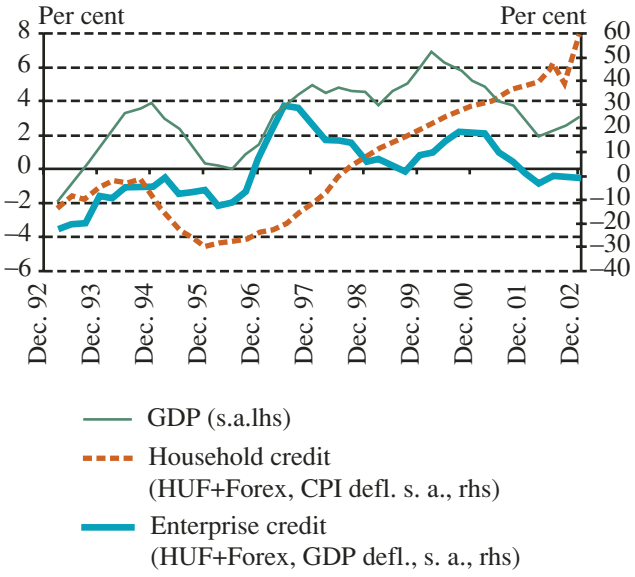


Chart I-17 **Real growth rate of GDP as well as corporate and household loans (per cent)**



The sectoral structure of fixed investment *(see Chart I-18)* changed in line with current and expected changes in the composition of demand. While fixed investment in manufacturing, which is directly affected by external business activity, declined last year and has stagnated this year, fixed investment in market services and the construction industry, influenced mainly by domestic demand, has been vigorous.

Chart I-19 shows the number of bankruptcy and liquidation procedures initiated by incorporated businesses.

Chart I-18 **Fixed capital investment in manufacturing, market services and construction**

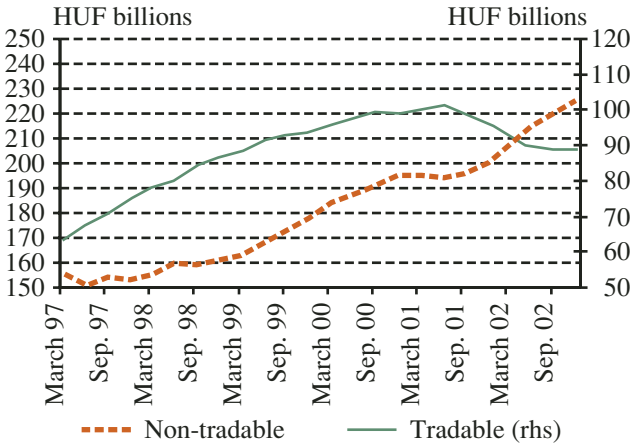
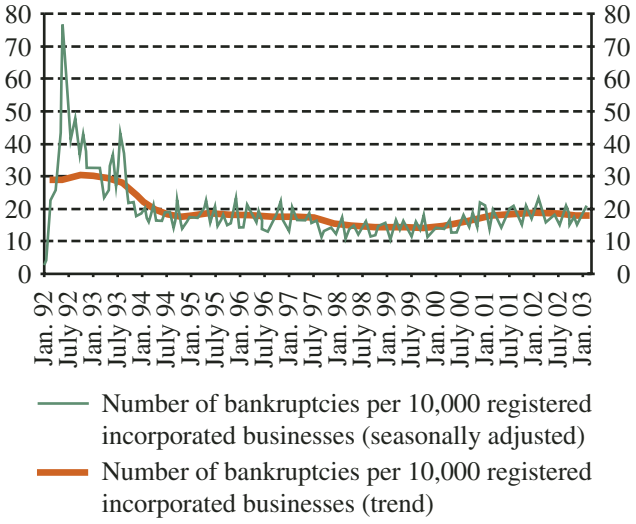


Chart I-19 **Number of bankruptcies and liquidations***



** Data exclusively on incorporated businesses.*
Source: CSO and Opten, www.opten.hu

Their number relative to mid-2000 has shown no significant change over the past six months. Their present number is attributable to sluggish economic growth brought about by the global slowdown and relatively slow corporate adjustment to disinflation.

The prospective development of European business activity is the factor that represents the greatest risk to growth prospects. While the Hungarian economy has grown more rapidly than its major trading partners as a result of the past two years' policy of invigorating domestic demand, growth led by consumption and government-induced demand are unsustainable in the long run as they fail to generate production capacity that would later be able to satisfy export demand vis-à-vis the economy's import demand.

Another unfavourable outcome of ill-structured growth was that the Bank had to offset the inflationary impact of expanded domestic demand by tightening monetary conditions, which resulted in appreciation of the forint. This had an adverse impact on the profitability of companies engaged in international trade.

In the event of sluggish business activity, adjustment to the excessive wage dynamics of the past two years may become harder. Slow wage adjustment forces companies to reduce staff levels in order to restore profitability, leading to increasing unemployment. The Bank projects that inadequate wage adjustment may lead to a 0.4% decline in employment in the corporate sector in 2003.

The consolidation of fiscal policy as required by the EU and also indispensable for the EMU entry is likely to contribute to a more balanced structure of demand and reduce risk to stability by improving the fiscal and balance of payments positions. Furthermore, fiscal adjustment would also provide the opportunity to create an economic policy mix that is able to promote economic growth.

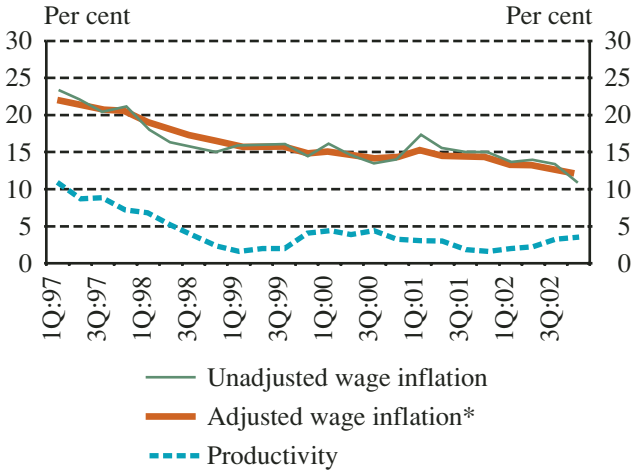
INFLATION

If it is unpredictable and fails to move in line with expectations, inflation carries financial risks, as it makes it difficult for private participants' to arrive at justified decisions and alters, amongst other things, the real value of cash flows between creditors and borrowers and employers and employees. One indicator of predictability is the difference between inflation expectations and actual inflation.

The Bank and market analysts agree that the Bank's inflation target of 3.5%±1% for 2004 will, in all likelihood, be achieved and that short-term developments in inflation are currently quite favourable. First, exogenous factors, such as declining oil prices and the depreciation of the dollar, point to faster-than-expected disinflation. Second, falling inflation is reflected in items also affected by monetary policy. This suggests that adjustment to tight monetary conditions has accelerated on the domestic goods market.

Based on the approximately two years that have past since introduction of the inflation targeting regime, it is only possible to draw conclusions of limited scope. Nevertheless, as shown in *Chart I-21*, the error margin of the projections of market analysts polled by Reuters declined somewhat due to the new monetary system. A survey by TÁRKI indicates that the inflation expectations of corporate executives closely track change in analysts' projections. However, in line with the experience of other countries pursuing disinflation policies, there is a marked difference between the levels of these expectations.

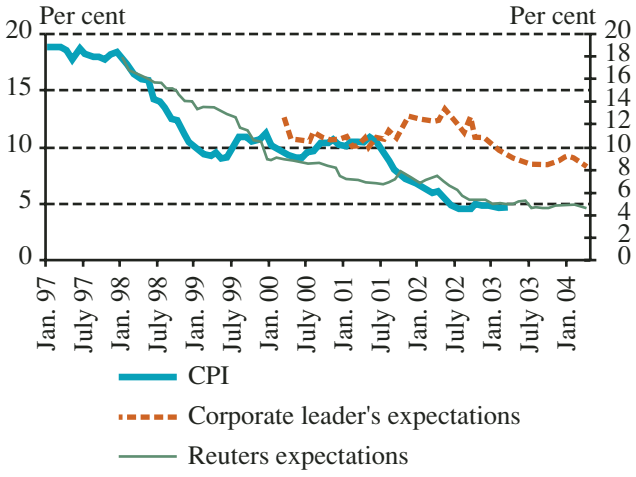
Chart I-20 **Wage inflation and productivity in the private sector**



Source: MNB.
** Twelve months seasonally adjusted data, recalculated for the category of enterprises employing 5 workers of more and netted from statistical effects of minimum wage increase.*

Increasing nominal wages, however, suggest that market participants have not adjusted themselves to low inflation yet. Wage inflation in the private sector exceeds productivity growth more than the levels of consumer and producer price inflation would make sustainable. High production costs continue to point to the presence of inflation risk.

Chart I-21 **Actual inflation and inflation expectations for a given period from a year earlier**

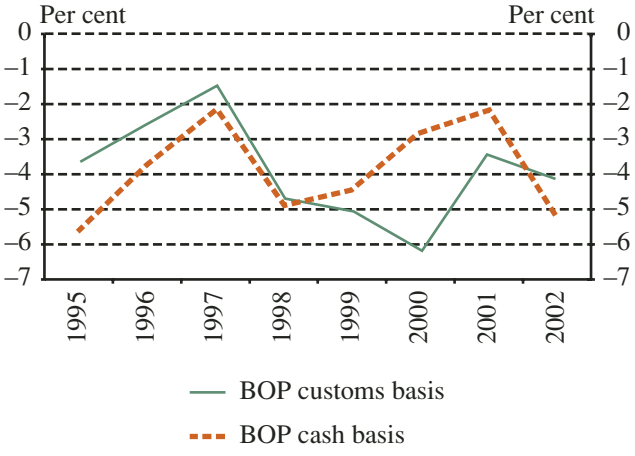


Source: Reuters, TÁRKI and MNB.

I. 4 External equilibrium

Several new statistical methods are available for the analysis of macroeconomic equilibrium. The method of calculating the current account has been modified,[14] and from 2003 onwards, the MNB regularly publishes Hungary's Financial Accounts,[15] which provide a comprehensive picture of the financial position of as well as capital flows between the individual economic sectors. This can help forecast their future borrowing requirement. The analysis of new data has somewhat changed the existing perception of macroeconomic relationships in the Hungarian economy. A study, *Hungary's external balance between 1991–2002 based on financial accounts data*, included in the *Special Topics* chapter, deals with this changed perception.

Chart I-22 **Current account deficit as a proportion of GDP according the old and new methodology**



In 2003, Hungary's current account deficit calculated using the new methodology is projected to be around 5.1% of GDP, which represents a slightly over 1% deterioration (i.e. EUR 1.1 billion) compared to the previous year. The Bank's forecast for 2004 is for a similar level of current account deficit.

Hungary's International Investment Position (IIP), compiled in accordance with the methodology of financial accounts and also allowing for reinvested earnings, amounted to 6.4% of GDP. The Bank has not yet made any projections of developments in the IIP based on the financial accounts. An estimate of the expected IIP can be made on the basis of current account balance projections, as the size of the most important item, i.e. reinvested earnings responsible for the differences between the two types of statistics, has been rather stable over the past years, amounting to 2–2.5% of GDP.

In a convergence economy, it is fairly common for the current account balance to show a deficit for longer time. The reason for this is that strong demand for fixed capital investment during the convergence process cannot be financed from the aggregate savings of the country in question. If fixed investment generates efficient capacity that is able to guarantee the repayment of investment financed by non-residents, the sustainability of the current account deficit cannot be doubted. At present, it is not the extent of the deficit that poses the greatest risk in Hungary. Rather, it is the current financing structure of the individual economic sectors that generates tension-with the macro-economy enjoying healthy growth, the structure common in 2002 and 2003 can no longer be sustained.

In 2002, of all the domestic economic participants', only the public sector's position was negative, which entailed both the domestic private sector and non-residents' participating in public sector financing.[16] In terms of financial stability, permanent significant public borrowing requirement carries serious risk, because the domestic private sector's room for manoeuvre narrows significantly and non-residents also perceive higher risks in financing. In order to reduce risk, it would be important for the general government to curb its borrowing

[14] Data on trade in goods in balance of payments statistics are recorded on an accrual basis derived from customs statistics, instead of a cash basis derived from banks' reports as was customary earlier. The methodological changeover has created consistency between data on Hungary's foreign trade as recorded in the national accounts and balance of payments statistics. The changeover has also affected the rest of the items on the current account of the balance.

[15] The statistical content and role in monetary policy of the Financial Accounts are expounded in the Special Topics chapter.

[16] Capital flow between the major (public, corporate, household and non-resident) sectors forms a closed system. Any change in the net financing position of the individual sectors will inevitably lead to changes in that of other sectors as well. Economics employs the term 'twin deficit' to refer to the phenomenon when public sector borrowing requirement is growing and, for want of any change in the domestic private sector's behaviour, is met by non-residents. As a result, fiscal and current account deficit also grows.

Table I-3 **Current account deficit and the financing capacity of the individual sectors (As a percentage of GDP)**

	2001	2002	2003	2004
	Estimate		Projection	
I. General government*	–5.1	–8.9	–7.7	–6.2
II. Private sector (1.+2.)	2.3	5.2	2.8	1.4
1. Households	4.8	2.2	1.5	1.1
2. Corporate sector**	–2.5	3.0	1.3	0.3
External financing capacity (I.+II.)* **	**–2.8**	**–3.7**	**–5.0**	**–4.7**
Current account balance	**–3.4**	**–4.0**	**–5.1**	**–5.1**
In billion EUR	*–2.0*	*–2.8*	*–3.9*	*–4.2*

* *A specific, cash flow approach-based indicator used to analyse savings positions. It does not show general government deficit.*

** *Financial and non-financial enterprises combined. Neither the costs of state-financed motorway construction nor the expenses of certain state-owned companies (e.g. the Hungarian Railways) feature here. Rather, they are included in the general government sector. Companies whose losses are financed by the state are included here.*

*** *External financing capacity also comprises both current account and capital balance.*

requirement continuously and to the largest possible extent in the years to come.

For fiscal policy to keep a low profile is especially justified, given the private sector's response in a convergence country. Corporate fixed investment boosted by business confidence adds considerably to the current account deficit, while households' net financing capacity is likely to decline further. Increasing indebtedness of the household sector is a long process, resulting in a wealth structure similar to the one in the EU.

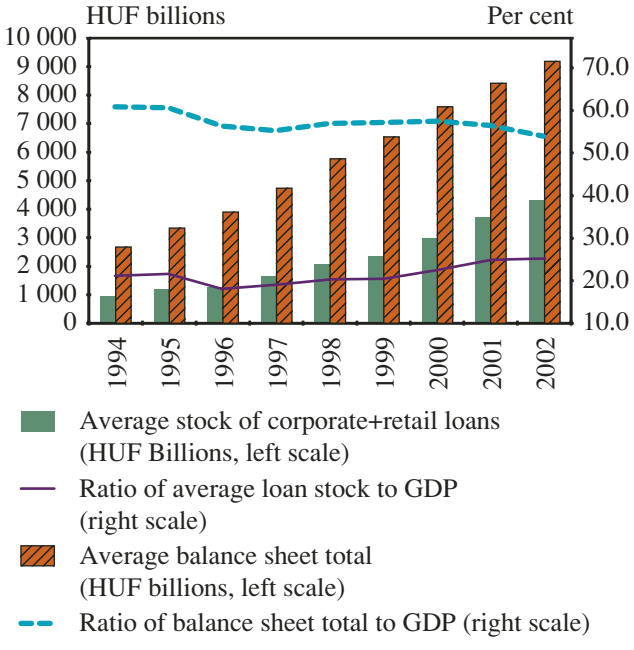
The Bank's projection for the drop in general government financing requirement that amounted to around an unsustainable 9% of GDP in 2002 is 1 percentage in 2003, and the financing requirement will be over 6% in 2004. Improvement in 2003 is due, in equal measure, to a narrowing fiscal impact on demand (0.5%) and a more favourable interest balance of public debt, due to low nominal interest rates.

Just as the sectoral positions have changed, so has the composition of financing the current account balance. Since the corporate fixed capital investment activity has become sluggish, and has thus transformed itself into a net saver temporarily, the influx of direct investment capital has slowed and the raising foreign loans by the corporate sector has tapered off. The magnitude of direct investment in Hungary was basically similar to last year's. At the same time, however, due to the regional expansion of a few large Hungarian companies, the domestic private sector's direct investment abroad reached an unprecedented high. As a result of moderate borrowing by the corporate sector, the weight of non-residents' government securities purchases in financing grew.

II. Stability of the banking sector

The depth of financial intermediation measured in terms of the loans-to-GDP and balance sheet total-to-GDP ratios continued to follow opposing trends in 2002, in a comparison excluding banks engaged in the discharge of public functions.[17] Specifically, while household and corporate lending increased slightly as a proportion of GDP, the balance sheet total-to-GDP ratio fell relatively sharply *(see Chart II-1)*. Similarly, bank loans extended to non-bank financial corporations saw a strong rise, triggered by the increasing involvement of bank affiliates in financing (especially, household and company leasing), which imposed an ever greater requirement on parent banks.[18]

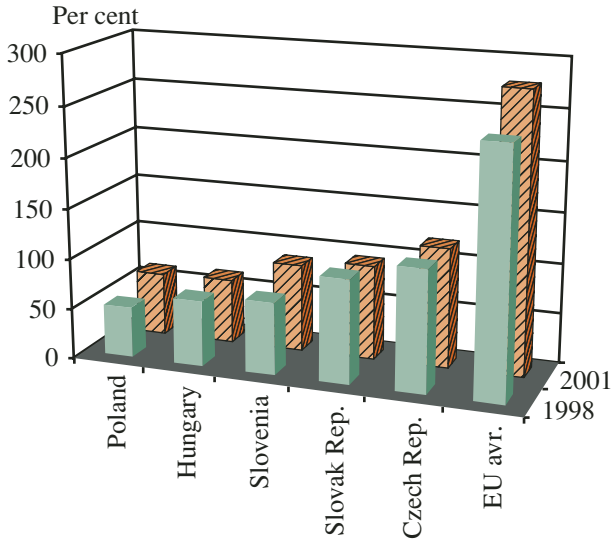
Chart II-1 **Balance sheet total, household and corporate lending as a proportion of GDP**



The upsurge in lending occurred simultaneously with a drop in the share of household deposits, holding the highest weight within liabilities, and an increase in the share of bank securities, currently with a small weight. The increase in the on-balance sheet weight of lending was offset by a plunge in the share of short-term foreign credits, government securities and liquid instruments (such as cash and current accounts).

The depth of Hungarian financial intermediation remains very low in an international comparison. The balance sheet total as a proportion of GDP lags far behind that typical of the European Union. In particular, the size of the domestic banking sector is not even half that of South European countries which have less highly developed banking sectors. In terms of the depth of financial intermediation, the East European countries have been falling increasingly behind over the past few years. While the balance sheet total-to-GDP ratio in the Union rose from 243% to 277% between 1998 and 2001, in Central and East Europe (CEE) it remained either flat or grew at a much slower pace *(see Chart II-2)*.

Chart II-2 **Balance sheet total to GDP ratio in an international comparison**



Sources: ECB and national central banks.

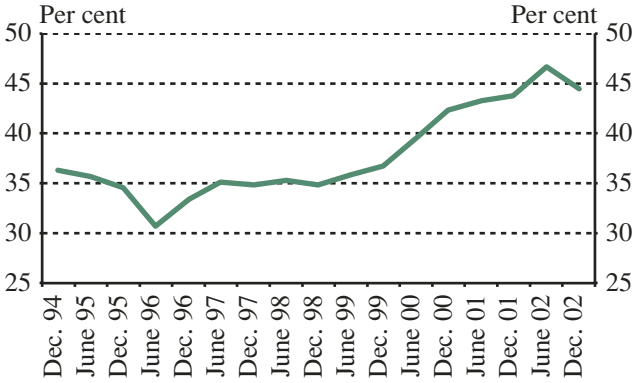
[17] Ever since the Report for 2001, the analysis of the banking sector does not cover the Exim Bank or the Hungarian Development Bank (MFB).

[18] For a discussion of non-bank financial intermediaries and leasing operations, see Section IV.

DEVELOPMENTS IN LENDING RISK WITHIN THE BANKING SECTOR[19]

The stock of lending[20] within the Hungarian banking sector grew by a total 23.8% in 2002. As a result of adverse external conditions and robustly rising domestic demand, domestic corporate lending growth picked up slightly for almost the entire year. However, due to the assumption by the government of the debt of a couple of large state-owned companies in December, the stock of corporate lending at end-2002 was barely higher than a year earlier. By contrast, the expansion of the housing subsidy scheme and the spectacular improvement in household income led to further acceleration in household credit growth. Due to these developments, the combined share of household and corporate loans increased sharply for most of the year as a proportion of the balance sheet total. However, this value fell sharply in December, due to the credit assumptions noted above *(see Chart II-3)*.

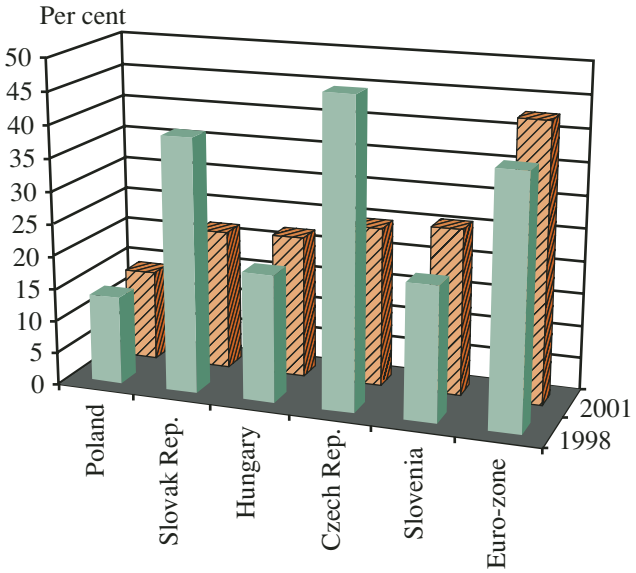
Chart II-3 **Banks' corporate and household lending combined as a percentage of the balance sheet total**



Along with a 12.3% rise in the balance sheet total, the value of risk-weighted balance sheet items also increased by 19%. In other words, the shift in banking sector interest towards higher risk customers continued. With the expansion of bank loans, lending by financial corporations, those with some bank affiliation, in particular, also grew buoyantly. Thus, credit risk increased even faster at the consolidated level.

In every CEE country, the depth of bank lending to the private sector lags far behind that of the EU. While corporate lending within the EU amounted to nearly 40% of GDP on average, the corresponding rate for Central and East European countries was as low as 18% in 2001. Poland seems to have the greatest disadvantage, with banks' corporate lending ratio falling considerably short of the average, remaining flat at 15% for several years. As for Hungary and Slovenia, corporate lending growth exceeded GDP growth between 1998 and 2001, while it fell sharply in the Czech Republic and Slovakia due to the clean-up of bad loan portfolios *(see Chart II-4)*.

Chart II-4 **Domestic banks' lending to companies as a percentage of GDP in the countries of Central and East Europe**



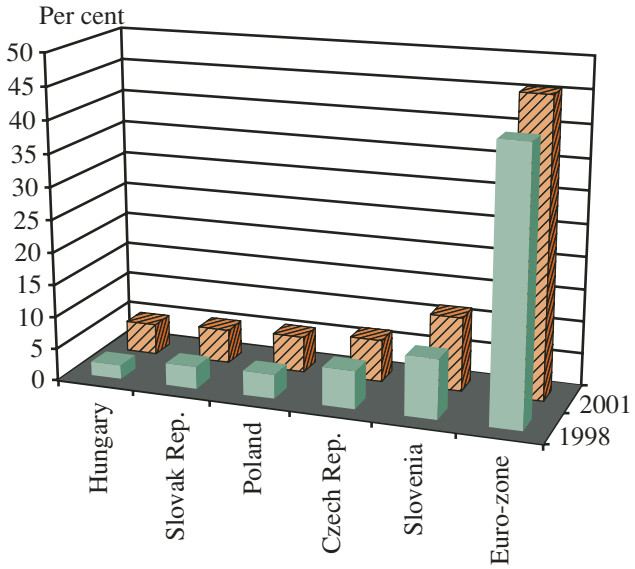
Sources: National central banks.

A cross-country comparison of the depth of bank lending to households in Central and East Europe reveals that this type of lending suffers from an even greater lag than corporate lending. Despite an upsurge in household lending in CEE countries, it still is of a lower order of magnitude as a proportion of GDP than that in the EU. While the EU average is over 40%, the average for the region is below 6%. Slovenia enjoys a slight edge over the rest of the CEE countries in this respect *(see Chart II-5)*.

[19] As of April 2003, the MNB adopted the EU conform system of national financial accounts (ESA 1995). For a short overview on this, see the section entitled Special Topics.

[20] The stock of lending is comprised of lending to the central government and other sectors, enterprises and households.

Chart II-5 **Bank lending to households in CEE countries as a percentage of GDP**



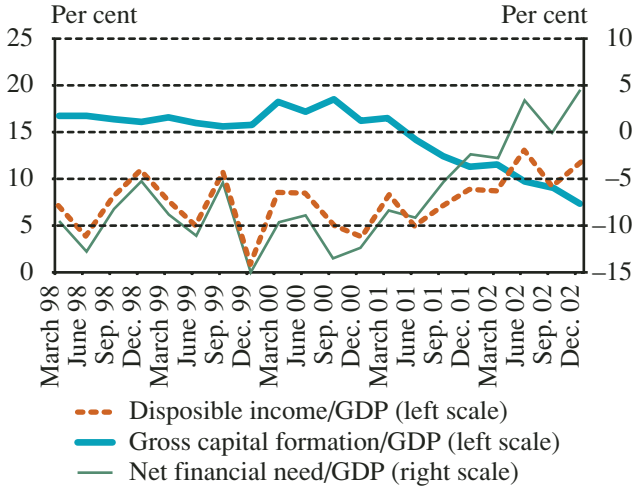
Sources: National central banks.

II. 1 Risks undertaken by non-financial corporations

Non-financial corporations continued to cut back on investment in 2002, while at the same time running down inventories. As a result, the investment rate of the corporate sector dropped to two-thirds the level seen 2001, measured as a proportion of GDP.

Simultaneously, the sector's net borrowing requirement also continued to decline, with companies even turning into net savers from 2002 Q2. In the final quarter, due primarily to government transfers granted to state-owned companies, the sector registered record savings.

Chart II-6 **Financial position of non-financial corporations (seasonally adjusted data)**

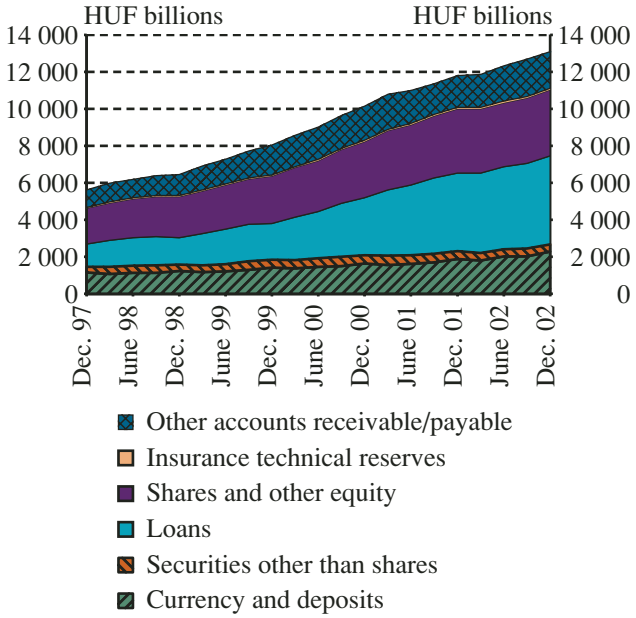


An assessment of non-financial corporations' investment and saving positions shows that there was no worsening in the sector's income in 2002. It should be noted, however, that this picture is somewhat distorted by the income transfer granted to state-owned companies in the form of assumption of loans by the Government. Adjusting the net financing requirement for this effect reveals that the sector of non-financial corporations did in fact deteriorate slightly in terms of income in 2002 *(see Chart II-6)*.

FINANCIAL ASSETS

The share of financial assets within total assets has been on a steady rise since end-1997. On an unconsolidated basis, financial assets accounted for 46% of the balance sheet total at end-2002, which still lags behind the corresponding average of roughly 60% in the EU. Reflecting a positive trend in liquidity, there was a slight rise in the share of liquid assets, such as cash, deposits, short-term securities and loans *(see Chart II-7)*.

Chart II-7 **Composition of the financial assets of non-financial corporations**



In a European comparison, the composition of financial assets of Hungarian companies is distinguished by two major features. While within the financial assets of domestic firms the share of loans by non-financial corporations to other non-financial corporations (most notably inter-company loans), households and non-residents is far higher than the EU average, that of shares and equities falls short. Furthermore, due to the relative underdevelopment of the capital market, quoted shares account for a negligible percentage share of the portfolio, while shares and other equity are significant.

THE COMMERCIAL REAL PROPERTY BUSINESS

In 2002, there was a decline in demand for commercial property, which was only partially followed by a corresponding drop in supply. The individual segments of the

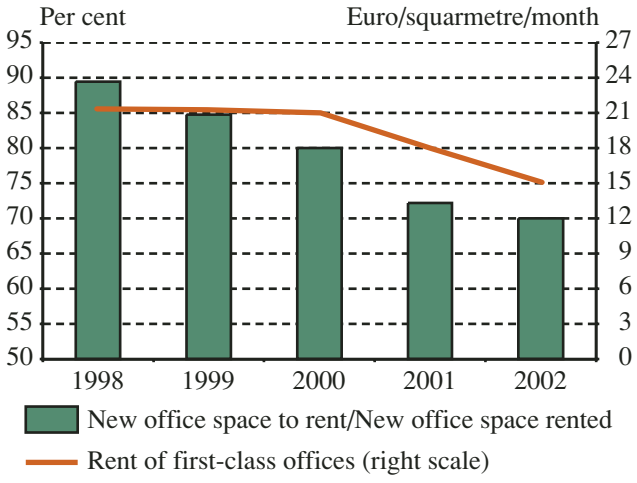
property market differed in terms of the extent of the slowdown. While excess supply became persistent in the office, warehouse and logistics markets, the market for retail space has only recently started to experience a slowdown.

The office market continued to lose momentum in 2002. Due to the adjustment by supply to lower demand and moderation of speculative construction projects, fewer new buildings were completed last year than in 2001. Nevertheless, the share of rented office area continued to decrease. Consequently, the vacancy rate of first class Budapest offices rose from 20% in 2001 to between 22% and 25% in 2002, simultaneously with a drop in the range of 15 to 20% in rental fees *(see Chart II-8)*.

Furthermore, in addition to the noted developments in prices and quantitative factors, terms and conditions of lease contracts also worsened, reflecting a kind of survival strategy on the part of lessors. First, the duration of lease agreements shortened, with new contracts concluded for terms in the range of three to five years. Second, the average leased area also fell sharply. Finally, an increasing number of lessors are no longer asking for fixed rental fees, but agree to reduce rental fees periodically.

Even though these changes in the market may appear to be welcome from the point of view of lessees, including an increasing number of small and medium-sized companies who can now afford to rent better-quality office space, the risk to banks' property lending line has probably increased as a result of the office market's worsening recession.

Chart II-8 **Developments in the Budapest office rental market**



Sources: DTZ Hungary, Economic Research Institute (GKI).

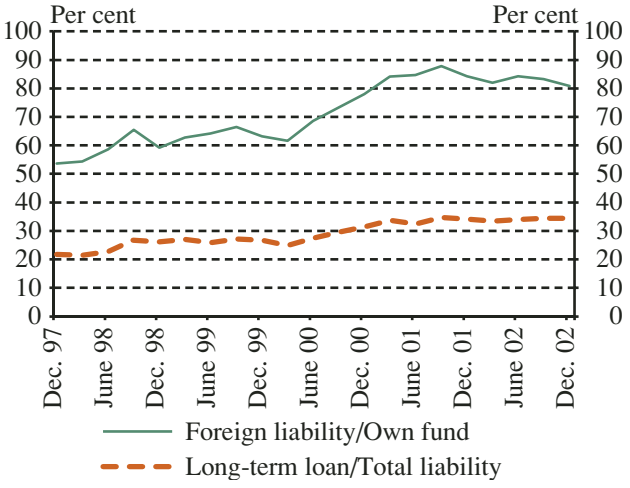
This unfavourable trend is unlikely to reverse in 2003, as further development projects and ongoing construction will be completed.

The growth rate in the number of retail outlets continued to slow down in 2002. While the number of food shops and petrol stations remained flat, that of outlets selling consumer durables rose at an above-average rate. Market restructuring went ahead with the appearance of new retail outlets with large amount of floor space. Accordingly, average retail floor space in Hungary is now close to the level seen in Western Europe. Even though turnover per square metre figures are lower compared with the EU, the costs of establishing such outlets are also lower in Hungary, making it an attractive destination for international retail chains.

LEVEL OF INDEBTEDNESS

The capital gearing of non-financial corporations rose steadily between 2000 and 2001 Q3, in line with the development of the sector and robust activity. At that time, the debt to equity ratio approached 90%. Needless to say, non-financial corporations acquired most of the additional funds from long-term credit *(see Chart II-9)*.

Chart II-9 **Capital gearing of non-financial corporations**

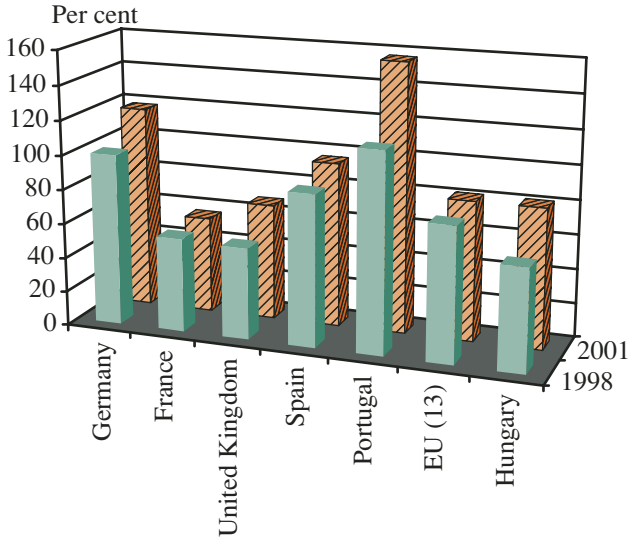


After end-2001, the decline in the corporate sector's financing requirement caused by the global economic slowdown led to a marginal drop in the capital gearing ratio.

Following an initial rise, the share of domestic loans within total lending started to fall after 1997. After this, flat-to-rising levels were seen in the period following the change in the exchange rate regime and the start of the slowdown in external activity at end-2001. By contrast, there was evidence of a pick-up in corporate debt to non-residents. Furthermore, the increase in the proportion of inter-company loans, seen as a fairly flexible form of borrowing, remained unbroken, while the importance of foreign currency loans provided by non-residents started to decline only after end-2001, due to increased exchange rate risk and weaker export growth.

The structure of Hungarian companies' liabilities is similar to the EU average. An analysis of the development of Hungarian firms' capital gearing reveals that, while in 1998 it fell short of the average EU ratio, the debt to equity ratio is currently on a par with the level usual in the EU *(see Chart II-10)*. Even though the overall indebtedness of Hungarian firms has in fact increased in recent years, this does not account by itself for the rapid catch-up. The other explanation is that, despite the pick-up in lending within the EU, capital gearing did not increase because shares quoted on the stock exchange also rose in price between 1998 and 2001, causing the value of own funds to rise as a proportion of total liabilities. In Hungary, the proportion of quoted shares remains low, while that of other equities remains very high within own funds, dampening the effect of market price movements on the value of a company's own funds. Comparison is also impeded by the fact that capital gearing ratios vary widely across the EU. While the debt-to-equity ratio is over 150% in Portugal, it is merely 55% in France. Thus, the international comparison suggests that Hungary's level of corporate indebtedness does not yet carry any major risk.

Chart II-10 **Cross-country comparison of capital gearing (debt to equity ratio) of non-financial corporations**



** Hungarian data are for the years 1998 and 2002.*
EU-13: EU countries, excluding Luxembourg and Greece.
Source: Eurostat.

DOMESTIC CORPORATE CREDIT RISK

In 2002, the stock of lending by domestic banks to non-financial corporations grew by a mere 1.9%. Despite a 9.9% rise in lending over the first eleven months of the year, the Government's assumption of loans of HUF 252 billion in December[21] caused the annual growth rate to fall sharply. Nevertheless, excluding the effect of the Government's assumption of the loans, lending to companies grew by 9.6% in 2002, faster than in 2001 (8.2%).

There are two key factors behind stronger domestic borrowing by non-financial corporations, which seemingly runs counter to the weaker economic activity. First, there was a pick-up in lending to small and medium-sized enterprises (SMEs). Second, there was an upsurge in project financing. Banks' chief reasons for increased interest in the SME sector included the sector's better profitability and saturation of the market of large companies. The robust growth in project financing seen in the face of the excess supply on the credit market could be attributed to expansion in property lending, a number of energy-related projects and transport development projects associated with the government.

Despite the steady growth in project financing, the assumption of mostly long-term loans by the Government caused long-term loans to fall by 1.3% and short-term loans to rise by 5.9% during the review period. As a result, the proportion of long-term loans within the total credit portfolio fell to 53%, simultaneously with a rise in that of short-term loans to 47%.

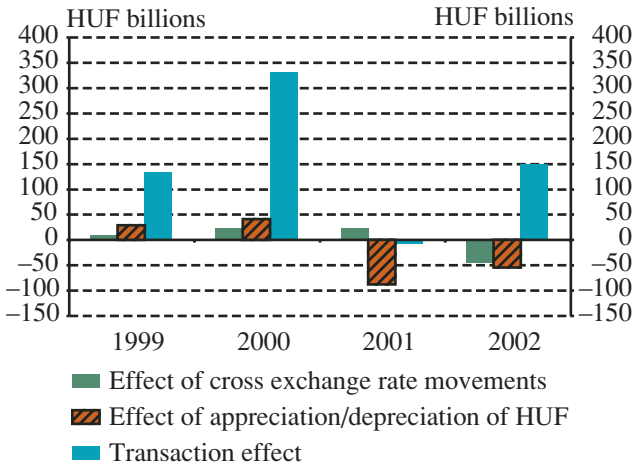
In 2002, corporate forint loans rose by 0.7% and foreign currency loans by 4.2%, causing the share of foreign currency-denominated loans to increase within total lending. At end-2002, forint loans accounted for 65% of total corporate lending and foreign currency loans for 35%.

It should be noted that credit transactions accounted for a rise of 12.8% in foreign currency loans in 2002 *(see Chart II-11)*. The appreciation of the forint continued to exert downward pressure, with movements in cross exchange rates and the forint exchange rate reducing the stock of foreign currency lending by 4% and 4.7%, respectively. As the increase in volumes typically affected short-term foreign currency loans, the share of long-term foreign currency loans declined.

Due to weaker demand for credit by large companies which have the greatest exposure to slowdowns in external activity, and the very low interest margins arising from sharp competition in this market, most of banks' lending was directed at SMEs in 2002. This trend gained further momentum from SMEs' growing demand for credit and improvement in profitability and hence credit ratings, as well as government subsidies to SMEs. While the stock of lending to large companies fell by 10.2%, due partly to the Government's assumption of

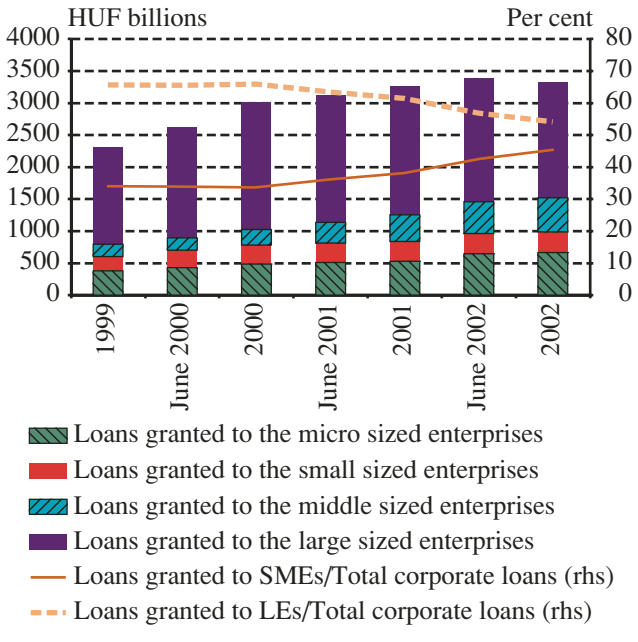
[21] In December 2002, the central government assumed a total of HUF 252 billion of debt owed by Magyar Autópálya Rt., MÁV and BKV. In the final month of 2002, the claims of the banking sector on non-financial corporations fell by HUF 252 billion, simultaneously with a corresponding increase in its receivables from the central government.

Chart II-11 Changes in foreign currency lending to non-financial corporations



loans, that of SMEs increased by 21.4% in 2002 *(see Chart II-12)*. Loans to micro and medium-sized companies increased at exceptional rates of 29% and 21%, respectively, while lending to small firms grew at a much slower pace of 3.5%. While it is true in general that, due to their higher vulnerability, micro, small and medium-sized companies are riskier to finance, the rapid rise in lending to SMEs within the corporate portfolio poses no significant threat.

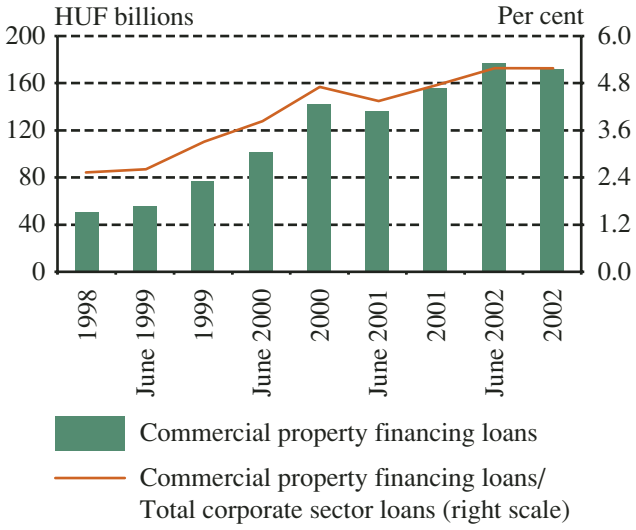
Chart II-12 Allocation of bank lending in a breakdown by size



It has been conducive to banks' credit quality that the Hungarian SME sector has continued to strengthen during the past few years, reflected in an improvement in profitability over time. Thanks to the high share of services, the reviewed sector was able to earn considerable profits from robust domestic demand fuelled by the expansive income policy implemented in 2001 and 2002. In addition, the adverse effects of the external economic slowdown were felt only to a moderate extent. Despite the upsurge in bank lending, the relative indebtedness of the SMEs did not increase, due partly to robust growth in equity and partly to the fact that for the most part the bank loan component of debt liabilities has replaced supplier's credit. It should be noted that, as it was predominantly backed by government support, lending to micro firms did not cause an undue rise in banks' credit risk.

Growth in project and mortgage lending associated with office buildings and shopping malls continued to decelerate in 2002 *(see Chart II-13)*. While the first six months witnessed a 13% rise primarily in foreign currency denominated loans, the second half of the year saw a decline of 3%. At end-2002, loans taken out to finance office building and shopping mall construction accounted for 5.2% of the total corporate credit portfolio. The weaker activity in terms of demand was mainly due to excess supply on the office market, and in terms of supply the sector's worsening debt servicing capacity. While the subdued rate of lending is undoubtedly a favourable development, the slowdown in the market of office buildings and shopping malls may lead to increased risk in credit quality via the drop in rental fees and property prices and the weakening of natural collateral. Moreover, there is the danger of a concentrated impact, due to the concentration[22] of commercial property lending in the hands of a few banks.

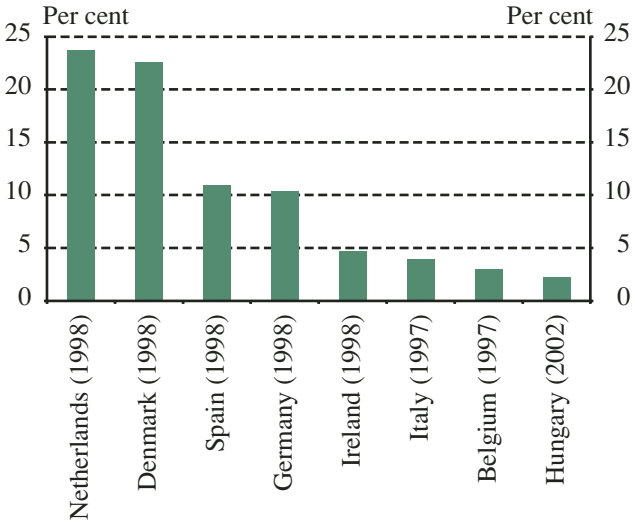
Chart II-13 Lending to finance office building and shopping mall construction



[22] In the portfolio of market leading banks, the share of loans taken out to finance property and shopping mall construction is over double the banking sector average.

Due primarily to the centrally-subsidised home purchase scheme, there was an upsurge of 47.5% in commercial loans taken out to finance residential constructions projects and home purchases in 2002. Project credits aimed at financing other types of property development rose substantially by 75.3%, owing primarily to the construction of the Budapest Sportaréna.

Chart II-14 **Commercial property lending as a percentage of GDP**

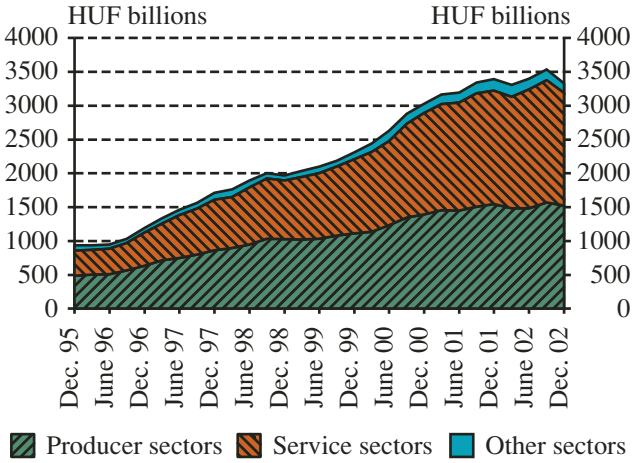


Source: ECB.

By international standards, Hungary has a greater deficit in terms of commercial property lending than total corporate lending *(see Chart II-14)*. In 2002, the commercial property lending-to-GDP ratio was 2.2%, while in 1998 the EU average was approximately 10%. The share of such loans in market-leading banks' balance sheet total was, however, near the normal level for the EU.

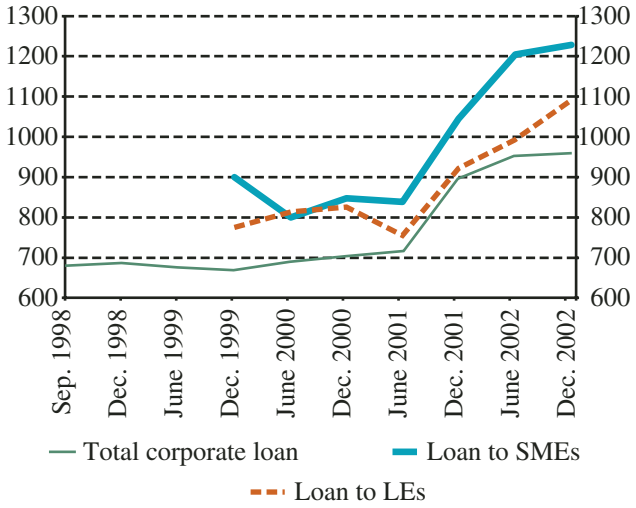
The structure of domestic economic growth is reflected in the cross-industry distribution of corporate lending. External demand as the engine of activity was in 2001 replaced by domestic demand, which generated lower financing requirement in productive sectors, particularly in manufacturing, and a higher requirement in the area of services. Accordingly, the share of productive sectors in the total credit portfolio fell from 45.6% to 43.4% in the first nine months of 2002 *(see Chart II-15)*. The manufacturing sector witnessed the strongest slowdown, especially in the chemical industry, machinery and equipment. Ongoing power plant construction projects increased the share of the energy sector within corporate lending. In the final quarter, the share of productive sectors again jumped to over 45%, due to the Government's assumption of the loans of state-owned firms operating in the service sector. Because of the structure of the Hungarian economy, lending to the manufacturing sector remained predominant within the aggregate credit portfolio. However, the resulting high exposure may pose significant risk to banks, as the sector's profitability is adversely affected by the external economic slowdown. In addition, expectations were negatively affected by the decline in export growth prospects.

Chart II-15 **Bank lending in a breakdown by business sectors**



Over the first nine months of 2002, the services sector accounted for 51% of total corporate lending. It then dropped to below 50% at the year-end, due to the government transfer. For most of the year, the weight of commercial accommodation and catering services increased within the credit portfolio, due primarily to the construction of first-class hotels in Budapest. In transport, storage, post and communication, loans to finance motorway construction and the development of railway and road transport deserve special mention. In 2002 H1, growth in lending to finance the construction of offices, shopping malls, residential parks and homes continued. The interruption of growth in property development lending in H2 was good news from the perspective of banking risks. By contrast, deterioration in the sector's profitability and credit rating constitutes an increasing threat.

Chart II-16 **Concentration of corporate lending [Herfindhal-Hirschman Index (HHI)]**

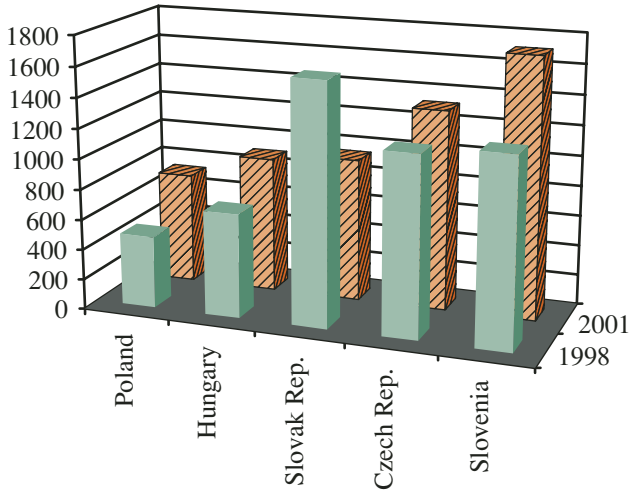


The corporate credit market continued to reflect a low degree of concentration. Despite evidence of an upturn in the Herfindhal-Hirschman Index (HHI) from the second half of 2001, growth in concentration appeared to be modest in terms of both size and level (with a HHI below 1,000).

This rise was due to a number of factors. In the second half of 2001, the HHI for the total corporate credit market increased as a result of fusions, while in 2002 the key factor behind the increase was the ongoing concentration in lending to SMEs and project financing *(see Chart II-16)*. There are basically three large banks accounting for lending to SMEs, and the market power of this group is rising steadily. Accordingly, the market share of these banks jumped from 42% at end-2001 to 50% at end-2002. This was regarded by the MNB as an unfavourable trend because of the concentration of risks involved. There is also evidence of concentration in the market of large companies. In the aftermath of the mergers, there was a further rise in the HHI in the credit market of large companies in 2002, due primarily to stronger project financing, raising the share of the three largest banks from 40% to 45%.

Concentration risk in corporate lending reflects a favourable trend in a breakdown by industry, as the HHI of manufacturing, the industry with the largest weight, remains low on average. In other words, the decline in the sector's credit quality caused by weak external demand is distributed across the banking sector *(see Table II-1)*. While in respect of lending to finance trade no worsening is expected in credit quality, the relatively dispersed character of credit extension is a welcome sign. Of the industries holding a smaller weight within the portfolio, the concentration risk appears to be high in respect of office building and shopping mall construction, which is struggling with the impact of the weak business cycle, and agriculture, which is relatively underdeveloped. Another source of danger is the relatively high HHI for lending to the construction industry, due to the likely decline in the sector's profitability.

Chart II-17 **Concentration of the corporate credit market in Central and East Europe (HHI)**



Source: National central banks.

In an international comparison, the Hungarian corporate lending market has acquired a competitive structure *(see Chart II-17)*. In three Central and East European countries, Poland, Hungary and Slovakia, the HHI is below the critical value of 1,000. Countries with a medium degree of concentration include the Czech Republic,

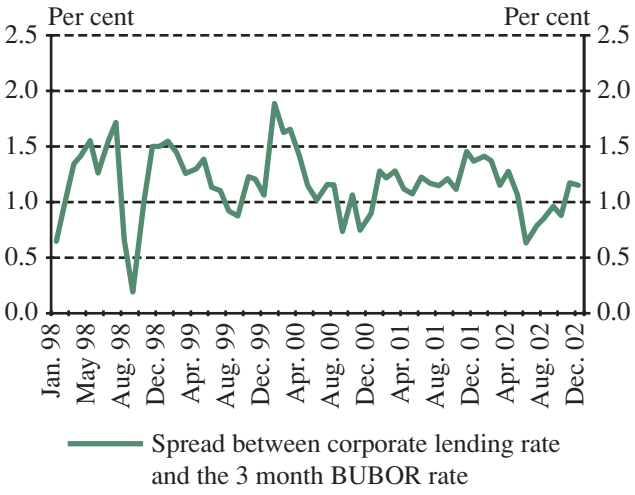
Table II-1 **Corporate loans in a breakdown by sector and degree of concentration**

	2001		2002	
	HHI	Ratio	HHI	Ratio
Agriculture, hunting, forestry	1474	6.7%	1641	6.6%
Mining	1832	0.6%	2570	0.7%
Manufacturing	952	27.1%	956	26.0%
Electricity, gas, heat and water supply	1454	5.0%	1619	6.0%
Construction	1075	6.2%	1877	6.0%
Retail and wholesale trade, repairs	885	18.6%	797	18.1%
Hotels and restaurants	1379	1.4%	1566	2.1%
Transport, storage, post and communication	1281	11.3%	1181	8.4%
Real estate and business activities	1112	18.1%	1081	21.2%
Office building and shopping mall construction	*2170*	*4.80%*	*2465*	*5.20%*
Other activities	1357	5.0%	1900	4.2%
Whole economy, total	**900**	**100.0%**	**962**	**100.0%**

Latvia and Slovenia. An analysis of current trends reveals that Slovakia is the only country in the region where the credit market HHI declined between 1998 and 2001. The other countries experienced a marginal rise in concentration during this period, due to ongoing liquidations and consolidation.

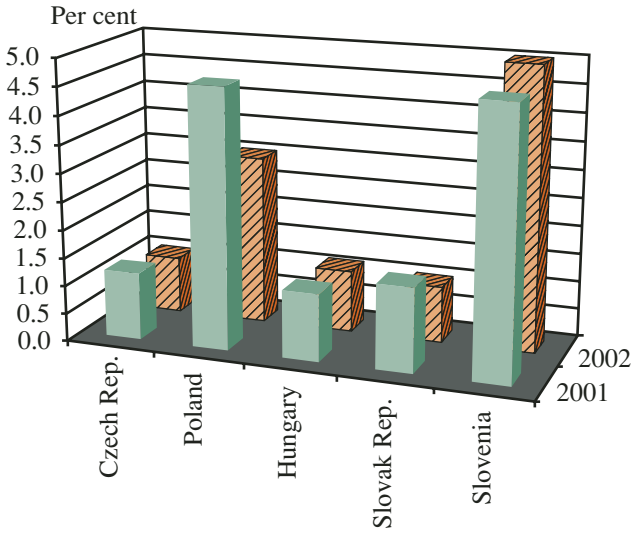
As the central bank's interest rate increases in May and July were reflected in Hungarian domestic corporate lending rates only some time later, because of sharp competition, the interest margin fell sharply during the first six months of 2002, followed by a gradual correction during the second six months, necessitated by increased risks *(see Chart II-18)*.

Chart II-18 **Interest rate margin prevalent in the corporate market**



On the whole, in 2002 the average annual interest rate margin remained virtually unchanged at 1.1%, relative to 2001, while continued lending to SMEs, weakening activity in office building and shopping mall construction and manufacturing, exerted upward pressure on risks. This reflects an adverse trend in terms of systemic stability as due to the strong competition, banks can only less and less take into account the expected impact of risk factors in the course of pricing their products. It should be noted that, in a regional comparison, the Hungarian interest rate margin is one of the lowest, along with that in the Czech Republic and Slovakia. *(see Chart II-19)*. The Czech and Slovak corporate credit markets are characterised by weaker competition than the Hungarian market, and portfolio quality is also poorer. Nevertheless, the interest margin is approximately equal in size, due to lower operating costs and inflation, as well as a higher level of bank intermediation. The relatively higher interest rate margin could be attributed to a high share of non-performing loans in Poland, and to high market concentration in Slovenia.

Chart II-19 **Spread between new corporate loans and three-month money market rates**



Source: National central banks.

CONTINGENT LIABILITIES

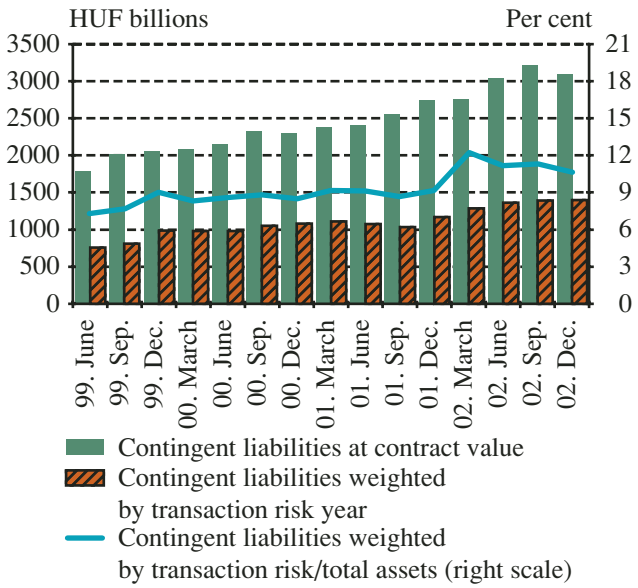
The contractual value of contingent liabilities, mainly vis-à-vis the corporate sector, rose by 12.7% in 2002 *(see Chart II-20)*. In the first six months, growth in contingent liabilities exceeded that in the balance sheet total by 9 percentage points, and in the second six months it fell short by a similar rate. At the same time, there was a significant worsening in the risk rating of contingent liabilities, which is viewed as an adverse trend in terms of market stability. Due partly to changes in the regulatory framework,[23] the transaction risk adjusted value of contingent liabilities rose by 20%, while the customer and transaction risk adjusted value rose even faster at 31%. Accordingly, the ratio of contingent liabilities adjusted for total risk to the balance sheet total rose from 9.1% to 10.7% in 2002, following a relatively long period of flat values. It should be noted that full risk liabilities also rose by nearly 34%, due largely to a 60% rise in credit lines non-callable within one year unconditionally. The size of medium risk items fell by 3%, while that of risk-free liabilities rose by 11%.

Slower-than-expected growth in external demand and the negative effects of real exchange rate appreciation and rapid real wage growth exert downward pressure on firms' demand for loans. As far as the supply of credit is concerned, activity may slow down in the near future as banks start to slowly adjust to the increased risk.

Despite the increasing number of risk factors emerging in various sections of the corporate credit market, the Bank does not perceive any excessive risk in corporate

[23] Growth in contingent and other future liabilities was also stimulated by a regulatory change. Due to a higher risk rating assigned to credit lines from 1 January 2002, if the credit line is drawn on, the total credit line will have to be classified as an item with a 100% weight.

Chart II-20 **Contingent liabilities**



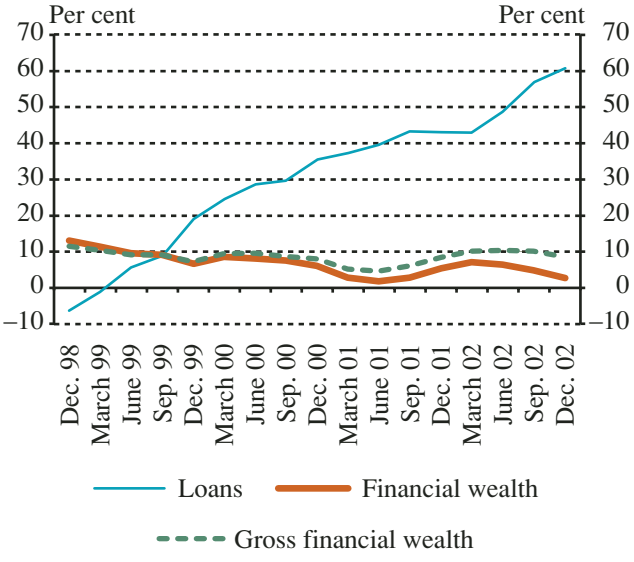
lending. Nevertheless, the deterioration in credit quality in the fields of manufacturing and office building and shopping mall construction should be noted, in addition to the increased risk posed by the upsurge in lending to SMEs. Consequently, the Bank expects a rise in interest rate premia in the near term. Should interest premia remain unchanged, the Bank would regard this as a cause for concern, implying as it would that banks are becoming less and less capable of passing on the increased risk to the price of credit.

II. 2 Risks in lending to households

INCOME POSITION

In 2002, the growth rate of households' net real income was much stronger than in comparable periods of earlier years. This was partly related to the parliamentary elections and partly to the fact that adjustment in corporate wage growth to the drop in inflation following band widening appeared to be slow and delayed. Consumption grew at a more even pace in the period; however, investment costs rose significantly due to further broadening of the scope of the subsidised housing scheme as of March 2002. Expansion in real incomes was less and less capable of offsetting the upsurge in lending, and this combination finally led to a sharp decline in the financial saving rate. This trend may become even more prevalent in 2003, as households' real income is expected to grow at a much more subdued pace, and there will likely be further substantial increases in the stock of lending, potentially leading to higher risk carried by lending to households. The observed tendencies have caused growth in net financial wealth to slow down from 2002 Q2, and this rate may even fall in 2003 *(see Chart II-21)*.

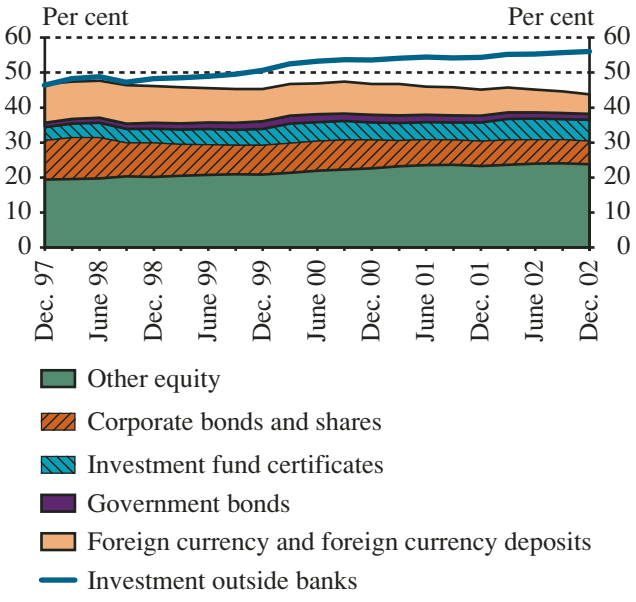
Chart II-21 **Annual real change in financial assets and the stock of lending**



STRUCTURE OF FINANCIAL ASSETS

The shift towards non-bank savings instruments continued in 2002. Based on international experience, this trend is expected to continue over the long term *(see Chart II-22)*.

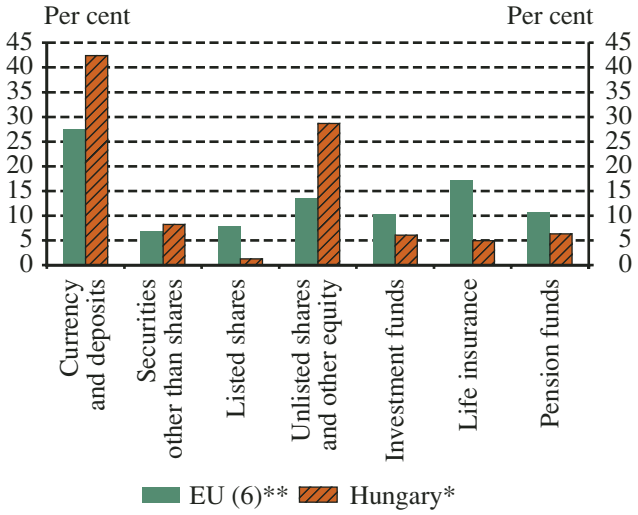
Chart II-22 **Ratios of non-bank financial assets and high-risk assets to total financial wealth**



The ratio of high-risk assets to household financial assets has edged down over the past two years, in conjunction with an internal reallocation. First, the weight of shares and foreign currency deposits has shrunk gradually. Second, the proportion of mutual funds shares and equities has increased. The latter accounts for an exceptionally high proportion of Hungarian household assets, relative to corresponding international figures *(see Chart II-23)*.

The decline in the past few years in the relative importance of foreign currency deposits within total bank deposits, accounting for one-third of household financial assets, became more pronounced following band widening. The higher exchange rate risk and the decline in inflation led not only to a drop in the relative weight,

Chart II-23 Composition of financial wealth in an international comparison, 2000



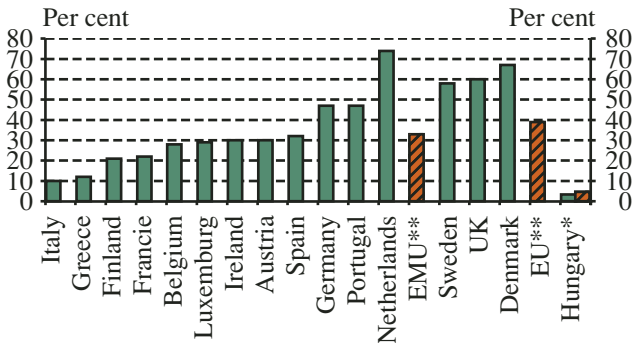
* Data for 2002.
** EU(6): United Kingdom, France, the Netherlands, Germany, Italy and Spain. Weighted average.
Source: OECD.

but also the level, of foreign currency deposits, due primarily to cross exchange rate and transaction effects. This downward trend is expected to continue over the longer term as well.

INDEBTEDNESS

Despite the upsurge in household borrowing, and the boom of the past few years in mortgage loans in particular, the ratios of Hungarian households' total and property bank loans to GDP remain low (11.2% and 4.7%, respectively at end-2002) by international standards *(see Chart II-24)*.

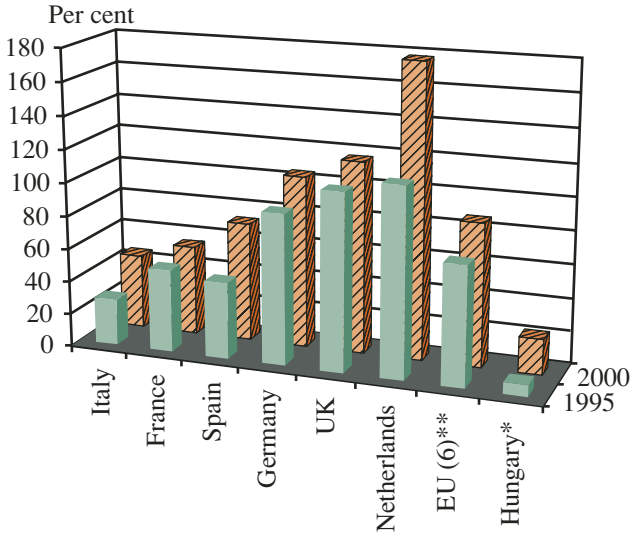
Chart II-24 Households' property loans as a percentage of GDP, 2001



* Hungarian data are for 2000 (average and year-end loans).
** Weighted average.
Source: ECB.

On the one hand, the Bank projects mortgage lending to pick up considerable pace in the long term, hand in hand with the further development of the Hungarian economy. On the other hand, Hungarian households have low debt servicing capacity, as the ratio of financial liabilities to disposable income is now quite near to the level typical for the developed countries, despite the relatively low stock of lending *(see Chart II-25)*.

Chart II-25 Household lending as a percentage of disposable income



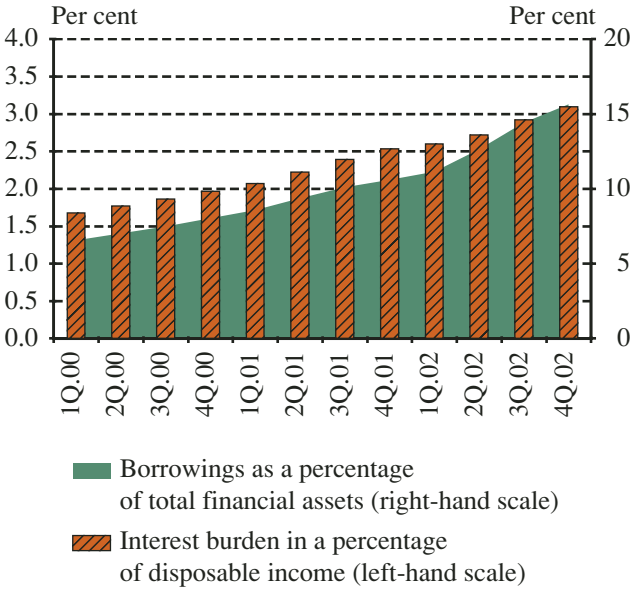
* Data for Hungary are from 1997 and 2002 (end-of-year loans, disposable income for 2002 is an estimate).
** Weighted average.
Source: OECD.

The weakness of Hungarian households' debt servicing ability is essentially due to differences in living standards and the lower level of Hungarian households' disposable income, in addition to a unique feature of Hungarian household wealth, notably an exceptionally high share of real property. Conversely, the share of financial assets is low. This implies that the stock of debt can only increase at a much slower pace than currently, if a substantial rise in risks is to be avoided.

In Hungary, the proportion of mortgaged dwellings is estimated to be much lower (10%–20%) than the corresponding rate in the developed European countries (40%–80%). It should be added, however, that the poorer quality of Hungarian dwellings and resulting lower prices in the housing market, the extremely low price of houses and flats in small settlements, and the disputed or unclear ownership status of some property dramatically pushes down the proportion of mortgagable property, compared with the developed countries. Furthermore, this great difference can partly be attributed to an exceptionally low ratio of rental housing in Hungary.

Indebtedness and the interest burden of households have been rising steadily since bottoming out in 1998. The increase in the sector's relative interest burden has been much more modest in comparison with the strong rise in

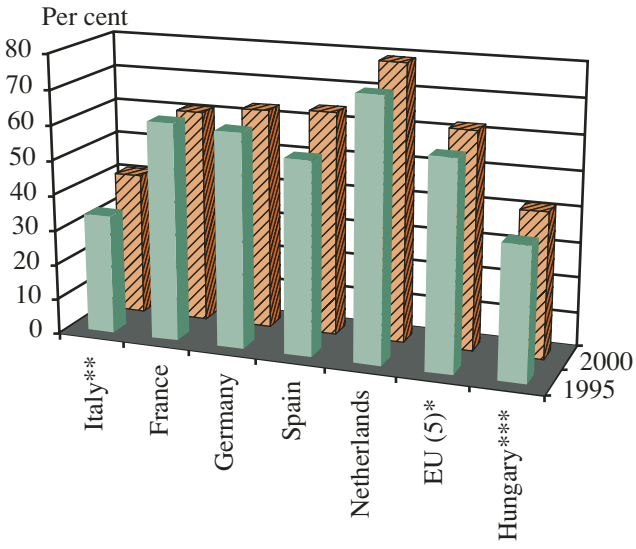
Chart II-26 Households' relative outstanding loans and interest burden*



* *Estimates.*

its relative indebtedness *(see Chart II-26)*. This reflects the increasingly higher proportion of subsidised housing loans, offered at low interest rates, within total households' loans. The roughly 3% rate of the interest burden does not carry excessive risk in an international comparison.

Chart II-27 Households' property loans as a percentage of total loans



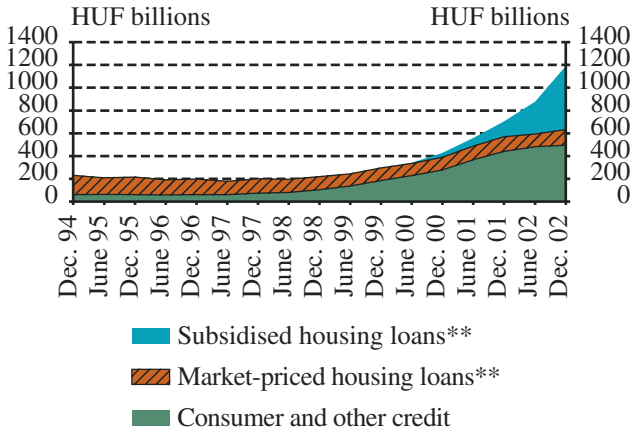
* *Estimated weighted average for 1995.*
** *Data for 1995 are replaced with data for 1998.*
*** *Data for 1997 and 2002 (year-end values).*
Source: OECD.

Despite the recent upsurge in the share of property loans within household liabilities, their weight (41% at end-2002) remains well below that of developed European countries, which, for example, was 62% for the EU (5) in 2000 *(see Chart II-27)*.

BANK LENDING

Bank lending to households, up 70% in 2002 and 54% in 2001, has been growing at a rapid pace for several years *(see Chart II-28)*.[24] Almost the entire stock of lending (97%) is denominated in forint. The ratio of long-term loans increased by 4 percentage points in 2002 (to 93%), simultaneously with the pick-up in housing loans. Following establishment of the regulatory framework for mortgage lending, the past two and a half years has seen a rapid rise in housing loans, thanks to expansion in the government's housing subsidy scheme introduced in the first half of 2000 and the adoption in 2001 of the independent lien.[25] The jump in housing-related mortgage lending in 2002 (up by 165%) could be attributed to the extension of the subsidy programme to used dwellings. The ratio of housing loans to bank assets rose from 1.6% in 1999 to 6.8% at end-2002, still far below the 15% ratio of the euro area average. This exceptionally fast rise in long-term housing loans is made possible by mortgage bank refinancing, based on independent lien. The majority of Hungarian commercial banks pass on pre-payment risk to customers[26] in the form of charges (up to 2% to 4% of the outstanding debt). Some banks, however, do not use this option, which may carry considerable risk.

Chart II-28 Bank lending to households*

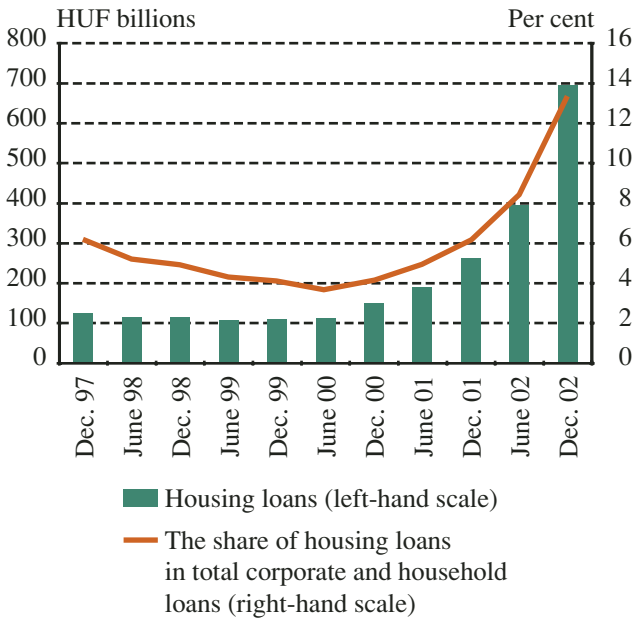


* *As of 2001, sole proprietors are classified with households, while earlier they were included under enterprises.*
** *MNB estimate.*
Source: Ministry of Economic Affairs and Transport.

[24] Excluding sole proprietors.
[25] For an in-depth analysis of the institutional structure of, difficulties and risks relating to, housing loans, see the December 2002 issue of the Report on Financial Stability.
[26] The Consumer Credit Directive of the EU provides for the debtor's right to pre-finance loans, which banks seek to prevent by including high charges.

Simultaneously with the pick-up in housing loans, the ratio of housing-related mortgage loans to corporate and household loans has been increasing steadily for some time. In 2002, there was a sharp rise in the rate of growth *(see Chart II-29)*. At end-2002, housing loans accounted for 58% of lending to households by the banking sector as a whole, and for 73% by the five largest banks. As regards loans subsidised on the liabilities side, accounting for the bulk of housing loans, bank credit is available up to a maximum of 60% of the collateral value (that is 80-90% of the market price). The average Hungarian Loan-To-Value (LTV) ratio (around 40%–50%), considerably lower than the 60%–80% rate typical in the EU, offers sufficient security.

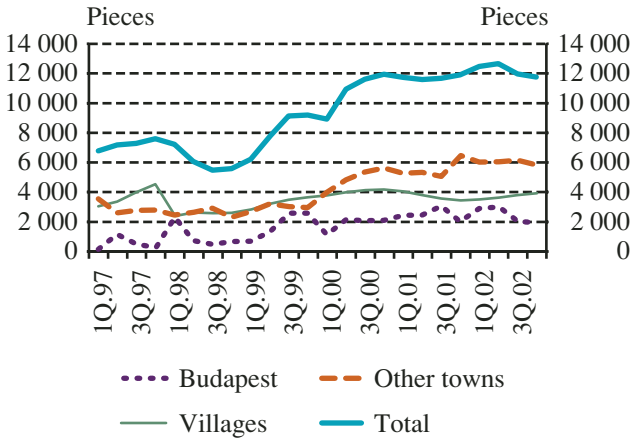
Chart II-29 **Banks' housing (mortgage) loans**



The exceptionally rapid growth in housing loans has not caused property prices to surge dramatically, as there was a simultaneous pick-up in the home construction market as well *(see Chart II-30)*. Given the high security ratio and the reasonable rate of price increases, the risks of a price bubble are not excessive, despite robust lending growth. At the same time, the absence of a reliable database on real property prices in Hungary is a cause for concern.

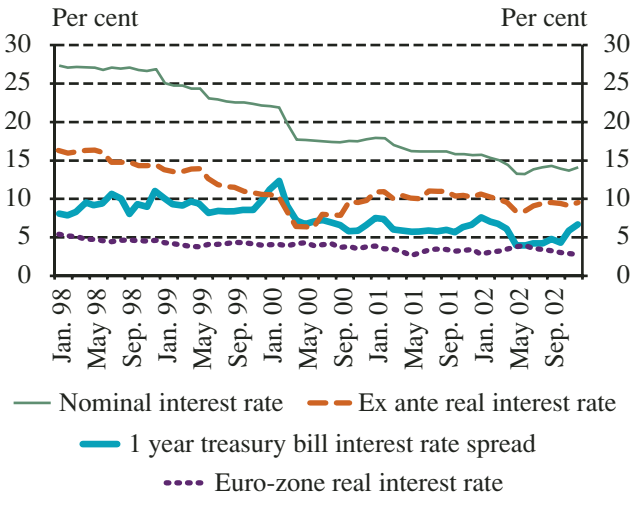
The sharp rise in the ratio of preferential loans to total housing loans reflects the impact of the subsidy programme, with the majority of new advances being subsidised loans. Accordingly, the average rate of interest on loans paid by households has fallen sharply. The preferential housing loans reduce banking sector risk. On the one hand the exceptionally low rates of interest paid by households, in the range of 3% to 6%, depending on the type of loan impose a smaller burden on households. On the other hand banks obtain a sufficiently high interest margin after they realise the subsidies. Interest received by banks with the subsidies included is only 1.5 percentage points lower than the currently rather high market rates charged on market-based property loans. Nevertheless, banks incur some risk due to the time difference between the granting of the preferential loans and the time of availability of the interest subsidy on the liabilities side. The interruption of the downward trend in interest rates on housing loans granted under market terms in 2002 implies that the downward pressure exerted indirectly by the subsidy programme has been exhausted. The real interest rate on market rate loans fell by 1 percentage point relative to 2001, while in 2002 it was in the range of 9%–10%, double the level typical in the euro area *(see Chart II-31)*. Further declines in the level of market rates may occur in the longer term as a result of further disinflation, stronger competition and potential tightening in the eligibility requirements for

Chart II-30 **Number of building permits issued quarterly***



** Seasonally adjusted figures.*
Source: CSO.

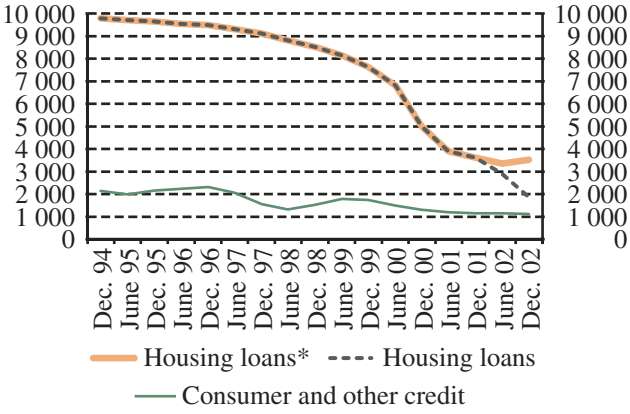
Chart II-31 **Nominal and real rates of interest on banks' new housing loans granted under market terms**



subsidies. Due to the prevailing very wide availability of the subsidised loans, the system crowds out real property loans granted at market rates.

Despite its apparent continuation, the decline in the degree of concentration triggered by the expansion in housing lending came to a halt in 2002 *(see Chart II-32)*.

Chart II-32 **Market concentration (HHI) of banks' housing loans, consumer credit and other loans**



* *Mortgage banks in 100% ownership are treated together with parent banks.*

Assessment of parent banks together with their mortgage banks suggests that the degree of concentration remained virtually unchanged in 2002. A HHI in excess of 3,500 and the fact that the three and five largest market participants accounted for 76% and 83% of the market respectively indicate a high degree of concentration.

Outstanding consumer credit and other bank loans increased by merely 13% in 2002, a much slower rate than previously. This could be partly because the upsurge in household borrowing for housing purposes may have dampened demand for consumer credit and other types of loans. Second, due to regulatory arbitrage existing in certain business lines, lending has shifted towards non-bank financial intermediaries (such as financial corporations financing car purchases).[27] In fact, for several years now, the growth rate of non-bank credit has considerably exceeded that of consumer credit and other loans *(see Chart II-33)*. It should be noted that as the majority of non-bank loans is provided by subsidiaries of banks, the decline in non-property-related lending is less perceivable on a consolidated basis.

Banks' average nominal interest rates and the APRC have remained consistently high over the past one and a half years. This is due partly to a higher degree of concentration and to weaker competition in certain market segments of consumer credit and other loans than indicated by aggregate indices relating to the market as a whole. Thus, banks are not forced to make genuine improvements in operating efficiency, as they are able to pass on to prices the higher risk and cost involved in consumer credit and other loans. Due to the high interest rates, the interest margin is very large, fluctuating around 10 percentage points for the past three years. Average nominal rates remain flat despite steady disinflation, causing real interest rates, which are nearly double the level for the euro area, to edge upwards *(see Chart II-34)*.

Chart II-33 **Consumer and other credit versus non-bank credit**

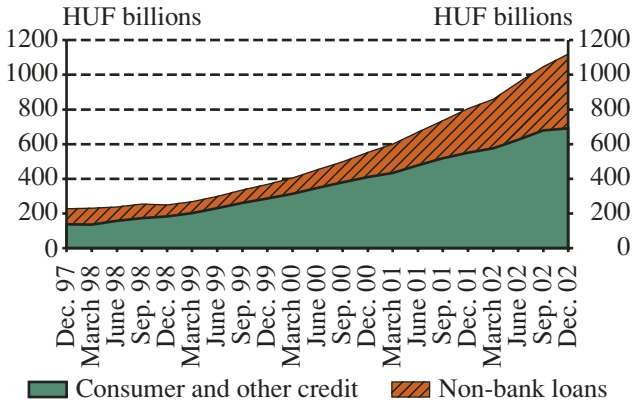
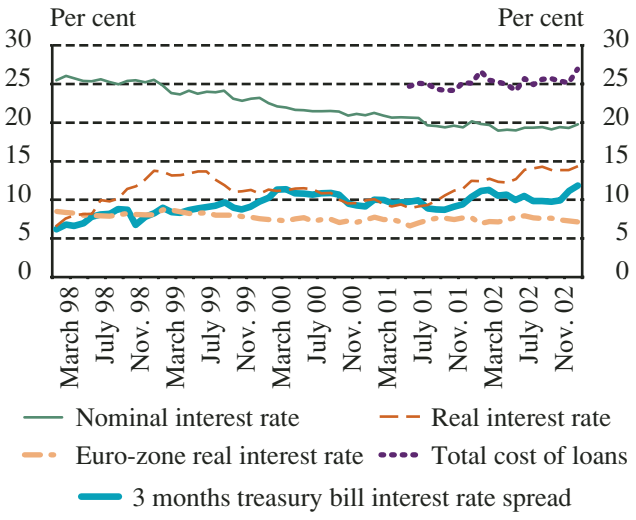


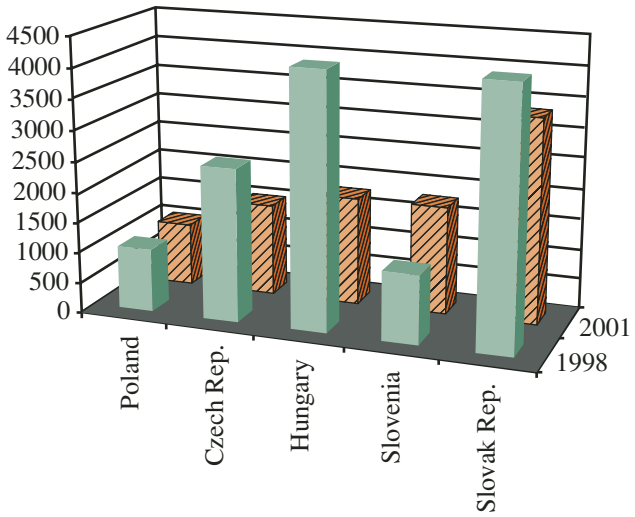
Chart II-34 **Nominal and real interest rates on banks' non-housing loans, as well as spreads on three-month treasury bills**



One of the typical features of Central and East Europe is that banks' household lending is significantly more concentrated than corporate lending. This is partly due to the initial structure inherited from the single-tier banking system (with a single retail bank), and partly to the fact that banks naturally tend to enter the household credit market,

[27] For more on this, see Section 4 on the Activity of non-bank financial intermediaries in 2002.

Chart II-35 **Concentration of bank lending to households in CEE countries (HHI)**



Source: National central banks.

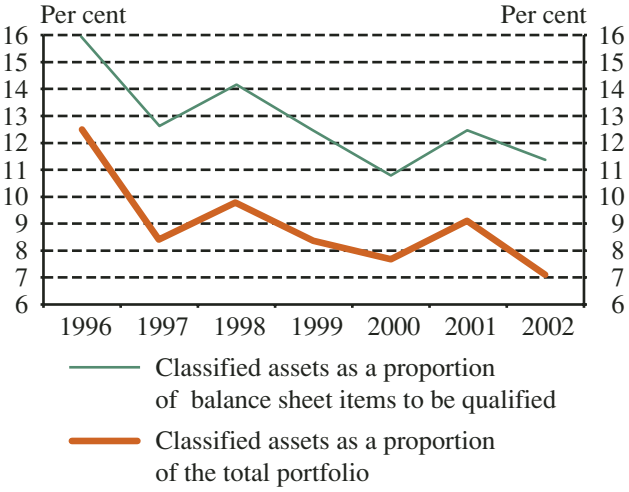
which is apparently more costly, only after the corporate credit market becomes saturated. Even though households' credit concentration declined sharply in most CEE countries, and particularly in Hungary between 1998 and 2001, it remains still quite high with the exception of Poland *(see Chart II-35)*. In coming years, concentration is expected to decline further, due to stronger competition.

The slowdown or the possibility of a temporary decline in the rate of growth of net financial wealth is, to a certain extent, a natural accompaniment of structural adjustment. Despite robust growth in household lending, and subsidised housing loans in particular, this segment of the market still exhibits a high degree of concentration. An unsaturated market enables banks to apply rather high risk premia, which imposes significant extra burdens on households, except in the case of subsidised housing loans. With regard to risk, it is a welcome sign that the interest burden is growing at a lower rate than indebtedness. Nevertheless, assuming that banks act prudently in the future, lending growth will likely moderate, given households' relatively low debt servicing capacity. Given the safe LTV ratio applied by banks, the Bank does not regard the current risk of a property market bubble as excessive.

II. 3 Portfolio quality

In 2002, the downward trend of the classified portfolio continued with regard to both classified balance sheet items and the total portfolio *(see Chart II-36)*. The improvement within the total portfolio was largely due to a higher share of off-balance sheet items, and particularly derivatives transactions.[28]

Chart II-36 **Ratio of the classified portfolio to total portfolio and balance sheet items to be classified**



The main indicator of portfolio quality, i.e. the ratio of non-performing claims, remained virtually unchanged at 3.6% *(see Chart II-37)*. Adjusting for credit charge-offs and the sale of non-problem-free loans, the picture would be slightly worse.

Preliminary data show that net realised provisioning after own claims, an item reducing the profit, increased by roughly 30% relative to the previous years *(see Table II-2)*.

Quality of the corporate portfolio

Weak economic activity both in Hungary and abroad as well as new interest in lending to a higher-risk segment (SMEs) have pushed up the risks linked to corporate lending over the past one or two years. Nevertheless, this has only led to a minor deterioration in portfolio quality *(see Chart II-38)*. There has also been a rise, first in the share of balance sheet items with a moderately bad rating, and then, increasingly, in the share of those with a worse rating. In the first half of 2001, the ratio of substandard items

Chart II-37 **Ratio of special watch and non-performing loans to the balance sheet item to be classified**

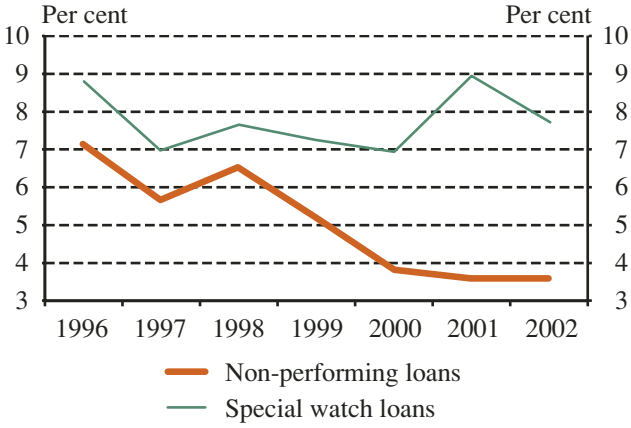


Table II-2 **Net provisioning (change in value adjustments)**

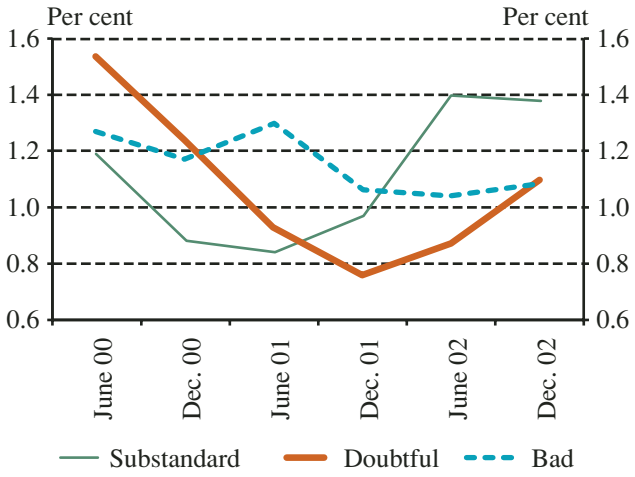
HUF billions

	31. 12. 2001	31. 12. 2002
Net provisioning of which	29.8	22.7
Provisioning after own claims	18.0	23.6
Provisioning after purchaised claims	–0.1	0.1
Provisioning after securities for investment purpose	2.3	0.6
Provisioning after shares & investment	9.6	–1.5

[28] Volume of the latter rose by a factor of 2.6 over twelve months, while also obtaining better rating, with 99.9% of loans being problem-free (compared with 98.7% previously).

started to rise, followed by that of doubtful items from the second half of 2002. In the absence of a general economic upturn, the ratio of non-performing items rose, as expected, from 2.8% last year to 3.6%.[29] However, the ratio of bad items remained unchanged, due primarily to the positive impact on the portfolio of charge-offs and sales of non-performing loans.

Chart II-38 Changes in the ratio of non-performing corporate loans



The ratios of recorded losses in value within the individual classified categories (such as substandard and doubtful) fell or remained flat (special watch and bad) *(see Table II-3)*.

CREDIT QUALITY OF HOUSEHOLD LENDING

Lending to households has been buoyant of late, thanks to households' improved income position and the government-subsidised housing programme (low ceiling on lending rates). In addition, the credit rating of the sector has improved substantially. This was reflected in an improvement in the quality of the household credit portfolio by end-2002. Accordingly, household credit quality measured as a percentage of non-performing loans to total loans is today nearly identical with that of the corporate portfolio (3.5%) *(see Chart II-39)*.[30] This favourable development has been due to a boom in housing loans, as mortgage loans, posing a significantly lower risk than consumer credit, account for an increasingly higher share of the portfolio. New loans are in general problem-free,[31] and housing loans are fully problem-free, improving the quality of the whole portfolio. Previously, in 2000 and 2001, new loans were only moderately beneficial to the portfolio, as high-risk consumer credit accounted for most of the growth in credit volume. A certain percentage of such loans turned into problem loans rela-

Table II-3 Recorded losses in value in the various classified asset categories as a proportion of the gross value of balance sheet items

Recorded losses in value as a percentage of gross value	Special watch	Sub-standard	Doubtful	Bad
31 December 2001	2.3%	22.0%	47.4%	89.0%
31 December 2002	2.2%	21.1%	47.5%	88.5%
Recorded losses in value as a percentage of gross value – households' loans				
31 December 2001	2.0%	17.5%	43.6%	94.3%
31 December 2002	1.6%	16.7%	41.3%	87.4%
Recorded losses in value as a percentage of gross value – non-financial firms' loans				
31 December 2001	2.0%	23.6%	47.9%	88.9%
31 December 2002	2.1%	19.0%	44.6%	88.9%

[29] The aforementioned credit assumption by the government contributed 0.25 percentage points to the portfolio deterioration.

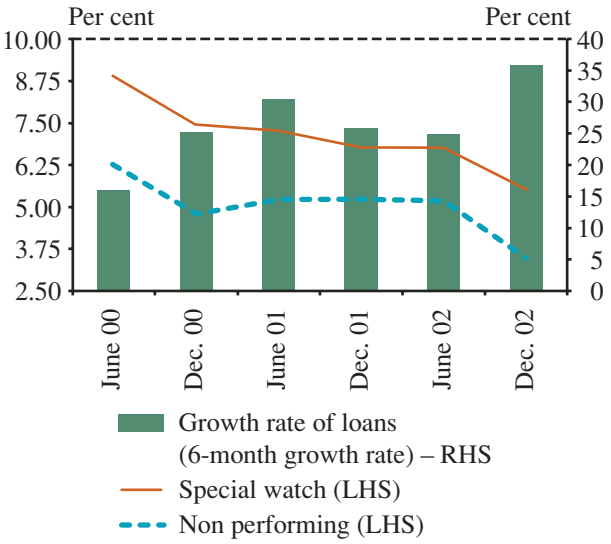
[30] However, with regard to composition, households' non-performing portfolio has a less favourable composition, with a higher percentage of doubtful and bad loans. This is partly because it is easier to remove non-performing claims from firms' balance sheets, except for charge-offs (usually by means of selling them off) than household loans.

[31] This is true despite the fact that a number of commercial banks have the procedure of classifying uncollateralised household loans as special watch items.

tively soon. In the future, the use of advanced scoring systems, adopted by large banks over the past one or two years, may play an important, but not quantifiable, role. By facilitating efficient differentiation among potential customers, this system is expected to reduce credit loss to banks.

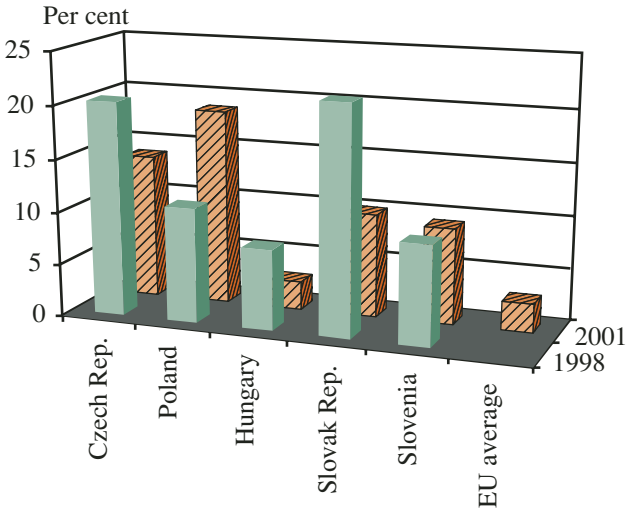
The share of recorded loss in value declined in respect of every classified category, as loss in value remained virtually unchanged, while the gross value of non-performing claims increased by 12%.

Chart II-39 **Growth rate of loans versus changes in the ratios of special watch and non-performing loans**



In a cross-regional comparison of four countries,[32] the Hungarian banking sector's portfolio quality appears to be exceptionally good, on a par with the EU average, measured in terms of non-performing loans as a percentage of total loans *(see Chart II-40)*.

Chart II-40 **Changes in the ratio of non-performing loans in five CEE countries and the European Union**



Note: End-of-year values, weighted means.
Source: National central banks.

In sum, the risks within the corporate lending market have continued to increase (due to weak activity and a higher ratio of lending to SMEs), reflected in a higher share of non-performing loans. However, the rise in non-performing loans was only moderate, due to a clean-up of the portfolio. Household lending followed an opposing trend, with a decline in the risks involved, thanks to better household incomes and government subsidies. Simultaneously, there was an improvement in portfolio quality, due partly to the boom in housing loans. However, banks' practice of recording loss in value in respect of the corporate sector failed to make sufficient adjustments to the higher risk environment, due probably to considerations of profitability. While bank procedures appear to be overly optimistic, this does not yet pose a risk to financial stability. The near-term outlook is for further deterioration in the quality of the corporate portfolio.

[32] As the definition of non-performing loans varies from one country to the other, the findings of such a comparison should be treated with caution.

II. 4 Market risks

BANKS' DERIVATIVES MARKET ACTIVITY

Banks' activities in the derivatives market have been expanding continuously since the increase in the width of the forint's intervention band and foreign exchange liberalisation in mid-2001. The total amount of commercial banks' open contracts rose from nearly HUF 2,000 billion at end-2001 to nearly HUF 8,000 billion at the end of 2002, calculated at nominal value.[33] Seventy per cent of the stock at end 2002 was for non-hedging purposes, 80% for trading purposes, with 99% the result of OTC transactions.

The most important event in 2002 (and in 2001 H2) was the strong increase in foreign exchange swap transactions and open positions-open foreign exchange swaps exceeded open forward foreign exchange transactions towards the end of 2001, and amounted to nearly double those towards the end of 2002 H1. In H2, open foreign exchange forwards also began rising strongly, with the 2-to-1 ratio remaining until year-end. At the end of 2002, open foreign exchange swaps accounted for 60% of total outstanding derivatives transactions.

The change in non-residents'[34] net outstanding swap transactions suggests that their investment decisions were driven by speculation on interest rate changes rather than by expectations of exchange rate appreciation. Classic convergence speculation, and purchases of short- and long-term government securities intensified. Over the short term, investors would not hedge their exchange rate expectations if they expect the exchange rate to appreciate. Rather, they would try to earn profits by taking exchange rate risk, which, in turn, would lead to lower net outstanding swaps.

Non-resident market participants most often use foreign exchange swaps for the purposes of interest rate speculation as well. The essence of this strategy is transacting a short-term foreign exchange swap-investors exchange foreign currency into forint under the spot leg of the deal, to re-exchange it under the forward leg of the transaction; or, they enter into an opposite longer-term foreign exchange swap. Investors pay variable interest on the short-term foreign exchange swap which they roll over continuously, while they receive fixed interest on the long-term foreign exchange swap.[35]

Another reason for the massive increase in open foreign exchange swaps is that an increasing number of banks have discovered short-term FX swaps as a tool for managing liquidity. In the swap market, the US dollar is the dominant currency, consistent with international practice. Highly liquid euro/dollar swaps are the bridge between the spot market dominated by the euro/forint pair and the swap market dominated by the dollar/forint pair.

The *Stability Report* on 2001 indicated that banks expected interest in options to increase in Hungary. As anticipated, foreign currency swaps did pick up in 2002 Q2. Banks were mostly sellers, rather than buyers, of options. In H2, it was mainly non-residents that bought options, either expecting a weakening of the forint and a simultaneous strengthening of the euro, or protecting themselves against this scenario. More than 90% of options were transacted in the euro/forint pair. This can be explained by the fact that delta hedging strategies could be realised best in the liquid euro/forint market. Low volatility of the euro/forint pair may have contributed to the pick-up in activity in the options market, as it raised buyers' appetite for options. Non-resident banks bought nearly three-quarters of options from domestic banks. This indicates that domestic market participants still make little use of this type transaction. One reason for this is aversion due to inadequate knowledge of the product, the other being the underdevelopment of the Hungarian options market. Nevertheless, commercial banks expect the options market to continue developing further.

[33] It should be noted that the 2001 stock data are not completely reliable. At end-2001, actual total of open derivatives contracts was higher than the value indicated in data reports in all likelihood (the Bank estimates this difference to amount to HUF 1,000 billion).
[34] Deals with non-residents account for 80%–90% of foreign exchange swap turnover.
[35] EONIA interest rate swaps are the most important vehicle of speculation in the euro area. Investors, speculating on a decline in interest rates, take up a position in which they pay an overnight rate and receive an interest rate fixed in advance. The market-maker, being on the other side of the deal, can hedge itself by purchasing government securities financed by a foreign exchange swap, provided that he does not want to run an open position.

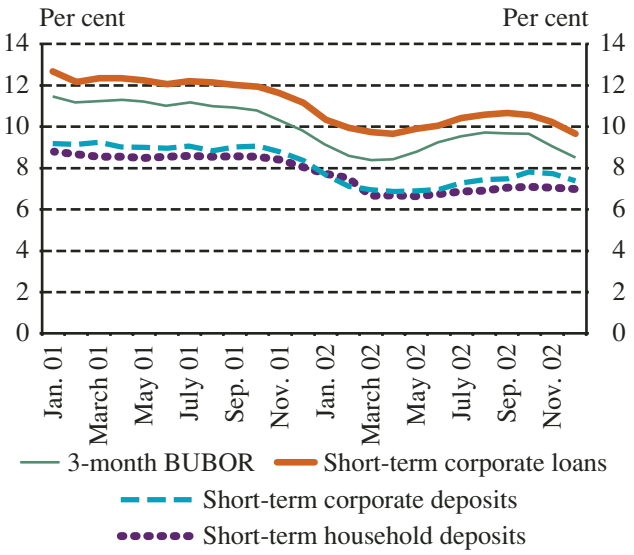
As an effect of foreign exchange liberalisation in 2001, there were major changes in the customer profile of banks in the derivatives market. Towards end-2001, non-residents' share rose from one-third to two-thirds. This ratio rose further in 2002–at the end of H1 non-residents accounted for nearly three-quarters of total turnover, with their share of the market stabilising in H2.

EXPOSURE TO INTEREST RATE RISKS

Market interest rates and official interest rates were much more variable in 2002 than in the previous year *(see Chart II-41)*. After the decline in rates in Q1, market interest rates rose due to the official interest rate increases in May and July. Then, in the final two months of the year, they fell again, in response to the Bank reducing its major policy rate two times, by 50 basis points on each occasion. Corporate lending rates adjusted to the official rate increases most flexibly, while the official rate changes fed through to household deposit rates with a considerable lag and to a much smaller extent. Corporate deposit rates adjusted less flexibly than borrowing rates but more flexibly than household deposit rates. In the period May-October and in the wake of the repricing actions by banks, the differential between deposit rates and market yields widened (mainly in the case of household deposits); however, deposit margins fell after the interest rate reductions towards year-end. Unlike corporate lending rates, movements in interest rates on housing loans and consumer credit[36] were completely different from those in market yields. Nevertheless, taking the year as a whole, the declines in corporate and household sector borrowing rates (1.5 percentage points and 1.6 percentage points respectively) were broadly comparable.

In 2002, there was a shift in the repricing profile of interest-bearing assets and interest-bearing liabilities. Due to the massive upsurge in housing loans and the growing importance of mortgage finance, the percentage share

Chart II-41 **Three-month BUBOR and banks' interest rates**



of forint-denominated assets and liabilities with longer repricing periods increased. The share of loans with repricing periods over one year rose from 5% to 12% and that of customer liabilities (deposits and securities) from 2% to 7% relative to end-2001.

As the stock of assets with longer repricing periods increased more strongly, the negative forint gap widened significantly, particularly in H2 *(see Table II-4 and Chart II-42)*. The 90-day cumulative forint gap more than doubled in the course of one year, and the ratio of the gap to the balance sheet total also nearly doubled, rising from 5.3% to 9.9%. The considerable degree of concentration of the banking sector's gap is also a risk factor, in addition to a significant increase in the aggregate open interest position.

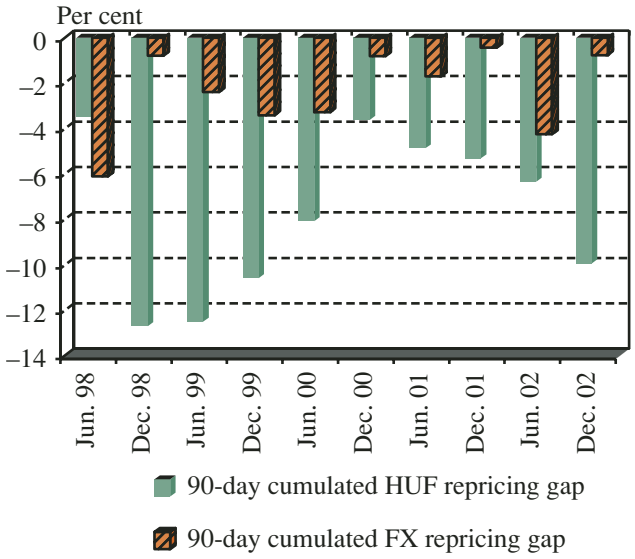
The major reason for the repricing gap widening was the fact that the larger part of the pick-up in housing

Table II-4 **Major indicators of banks' interest rate risk exposure**

	2001	H1 2002	2002
90-day cumulated HUF repricing gap (HUF Bn)	-480	-580	-1010
90-day cumulated FX repricing gap (HUF Bn)	-38	-388	-77
90-day cumulated EUR repricing gap (HUF Bn)	n/a	-140	48
90-day cumulated USD repricing gap (HUF Bn)	n/a	-248	-125
90-day cumulated HUF repricing gap/balance sheet total	-5.3%	-6.3%	-9.9%
90-day cumulated FX repricing gap/balance sheet total	-0.4%	-4.2%	-0.8%
Average interest-bearing assets/average interest-bearing liabilities	109.0%	109.4%	109.7%

[36] The interest rate on consumer credit includes interest rates on personal loans, hire-purchase loans, and car loans.

Chart II-42 **Banks' 90-day cumulative repricing gaps as a proportion of the balance sheet total**[37]



loans was financed by shorter repricing liabilities. First of all, the increase in outstanding mortgage bonds was HUF 172 billion less than that in outstanding housing loans. Secondly, a large portion of mortgage bonds was obtained by credit institutions through closed subscriptions and, consequently, these issues added to the repricing gap on the aggregate level of the banking sector.[38] As a result, nearly 60% of the increase in the forint repricing gap may be explained by the fact that the larger part of the robust increase in housing loans was financed by deposits with short repricing periods (and maturity).

It should be noted, however, that the repricing gap overestimates the actual degree of interest rate risk exposure for a number of reasons. First, a considerable portion (approximately one-third) of customer deposits is comprised of overnight deposits, which, although classified into the category with the shortest repricing, are actually very seldom repriced. Second, banks (mainly in the retail segment) price in unfavourable interest rate changes on the deposit side (i.e. rate increases) with a delay and to a smaller extent, exploiting their market power. In addition, household demand for bank instruments with longer maturity continues to be weak, which is a major obstacle to flexibly changing the repricing gap.

The foreign currency repricing gap is less important than the forint repricing gap in respect of developments in net interest income. After opening up in H1, it narrowed again towards year-end. The composition of the foreign currency repricing gap changed relative to H1–the euro gap (associated with a fall in the absolute value of the gap) had a positive sign, with the dollar gap remaining negative, although it declined by one-half relative to H1.

On the whole, the banking sector's exposure to interest rate risks increased considerably in 2002, accompanied by higher volatility of forint interest rates. The widening of the negative forint repricing gap may result in increased volatility of interest income over the short term, but, over the medium term, it will likely have a positive effect on profitability, assuming a continuation of the current decline in interest rates.

EXPOSURE TO EXCHANGE RATE RISKS

Looking at the denominational structure of the banking sector's balance sheet, the share of foreign currency items continued to fall in 2002 *(see Chart II-43)*. Foreign currency assets and liabilities accounted for a 4.1% and a 6.7% lower share respectively of the balance sheet total at year-end relative to a year earlier. On the assets side, foreign currency assets vis-à-vis non-residents fell significantly as a proportion, despite an increase in Q4. The percentage share of foreign currency loans to the corporate sector also fell. Partly offsetting these, foreign currency loans to non-bank financial intermediaries continued to rise at a rapid pace. On the liabilities side, the fall in foreign currency liabilities was attributable mainly to large declines in both foreign currency liabilities to non-residents and households' foreign currency deposits relative to end-2001.

Analysis of the shares accounted for by loans and deposits broken down by major currencies shows an increase in the share of items denominated in euro. The dominance of euro-denominated loans continued to increase within outstanding foreign currency loans to the corporate sector, their share rising from 69% to 78%. The euro rose from 45% to 51% as a proportion of households' foreign currency deposits, with the US dollar falling from 45% to 39%. The exchange rate effect, i.e. the 15% depreciation of the dollar vis-à-vis the euro and the appreciation of the forint vis-à-vis the euro, provides explanation for a significant part of decline in the share of dollar-denominated loans and deposits, in addition to the transaction effect.

Banks held a long foreign currency position amounting to HUF 30–50 billion throughout the larger part of 2002 H1. During the weakening of the forint exchange rate in June, the sector reduced and, in the wake of the decline in early July, closed its total for-

[37] The foreign currency repricing gap includes the sum of the EUR and USD gaps (from 2002, banks are required to report in five major currencies: euro, U.S. dollar, sterling, Swiss franc and yen).
[38] Although outstanding non-mortgage securities with longer maturity (and repricing) also rose, but only slightly, by HUF 42 billion.

Chart II-43 Foreign currency assets and liabilities as a proportion of the balance sheet total

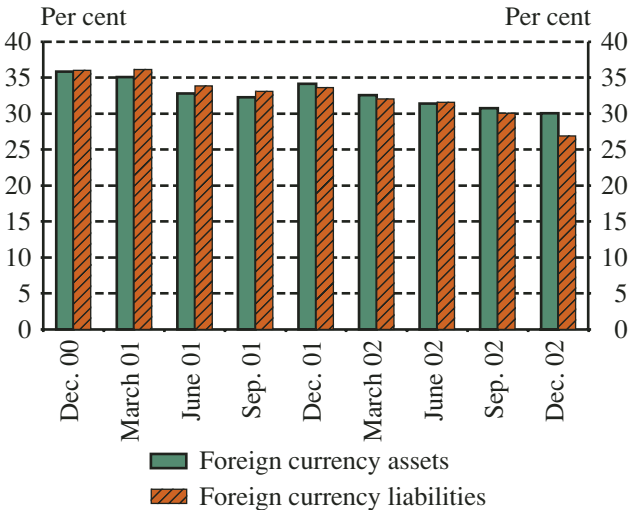
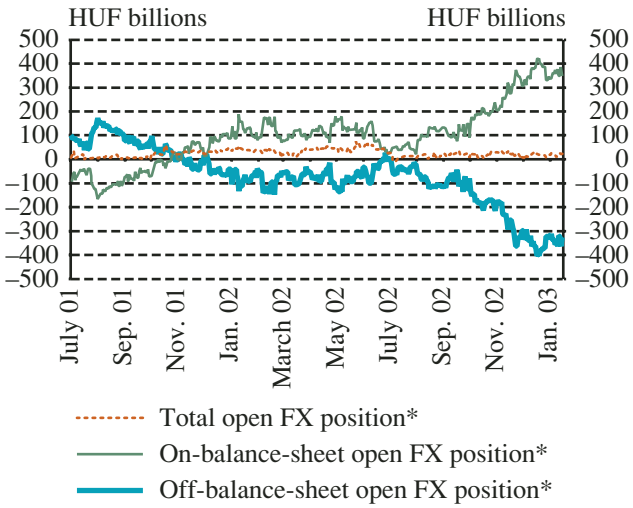


Chart II-44 Banks' total foreign currency position



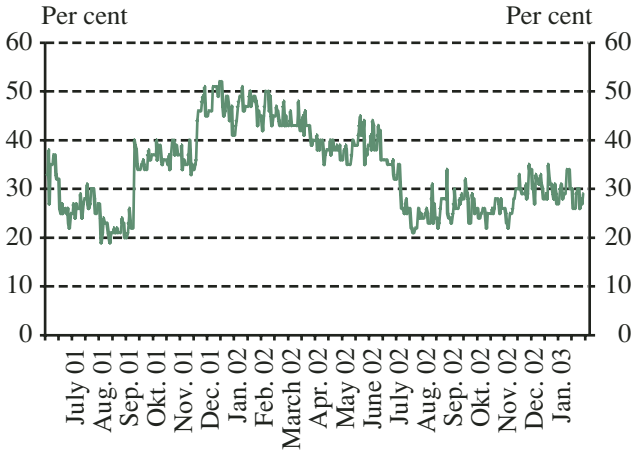
*Positive value: long FX position

eign currency position. From the second half of July to the end of the year, banks held a slight long foreign currency position. Exposure to exchange rate risks diminished in H2-the sector's long foreign currency position amounted to HUF 39 billion on average in H1, declining to HUF 19 billion in July-December.

Although the total open position remained nearly neutral in H2, on and off-balance sheet positions opened up significantly from October *(see Chart II-44)*, due mainly to massive purchases of government securities by foreigners, motivated by the convergence play. This meant that, as a result of their swap transactions with non-resident banks, Hungarian banks obtained surplus foreign currency assets on balance sheet (the majority of which in the form of foreign interbank lending) and forward foreign currency liabilities off balance sheet.

Consistent with the lower exposures to exchange rate risks, the sector's utilisation of limits on open positions *(see Chart II-45)* and the capital requirement on foreign currency risk[39] both were lower in 2002 H2 than in H1. Compared to the averages of the first half, the utilisation rate of limits on open positions fell from 42% to 27% and the capital requirement on foreign currency risk from HUF 4.5 billion to HUF 3.1 billion in 2002 H2.

Chart II-45 Utilisation of limits on open positions



On the whole, the banking sector reduced its exposure to exchange rate risks in the wake of the higher exchange rate volatility around mid-year. Although from October on banks' on-balance sheet position opened up steadily, reflecting the higher inflow of foreign capital, this was not accompanied by an increase in the sector's aggregate open position.

[39] The capital requirement linked to banks' foreign currency risk is 8% of the excess over 2% of the regulatory capital pertaining to the prudential regulations of the position with a higher absolute value of the aggregate short and long foreign currency positions.

II. 5 Banking sector liquidity

Continuing the previous years' trend, growth in lending was much stronger than that in deposits in 2002: whereas the growth rate of outstanding loans rose above 20% again, due mainly to the pick-up in housing loans, deposits only continued to grow at a rate of around 10%. This moderate increase in deposits can be explained by households' lower propensity to save (and, to a lesser extent, with the rise in the ratio of financial assets channelled outside the banking sector), as the growth rate of household deposits had fallen to 7% by December 2002 from 17% a year earlier. Consequently, it was mainly the lower net savings of households (due to rising demand for housing loans and falling propensity to make deposits) which explained the faster increase in the loan-to-deposit ratio[40] over the year as a whole relative to 2001 *(see Chart II-46)*.

This growth was not even, because due to the faster inflow of customer deposits in the final quarter, explained in part by seasonal factors, the loan-to-deposit ratio improved. The 84.5% ratio at year-end can be categorised in the middle range in comparison with the more advanced and the less advanced (South European) member states of the EU–the banking sector's loan-to-deposit ratio is higher (above 90%) in Italy, Portugal and the Netherlands; it is lower (below 80%) in Germany, France and Greece and it is similar in Spain.[41]

The sector's liquid assets as a proportion of total assets fell significantly, from 29.9% to 22.5%, in the first nine months of 2002, as banks ensured the source for lending expansion in large part by restructuring on the assets side *(see Chart II-47)*. However, surplus liquidity arising in the wake of the inflow of deposits in the final quarter partly fed through to liquid assets (mainly central bank deposits), so the liquid assets ratio also improved (24.3%).

Despite the more modest increase in deposits, banks' money market exposure did not rise. Moreover, money

Chart II-46 Loan-to-deposit ratio of the banking sector

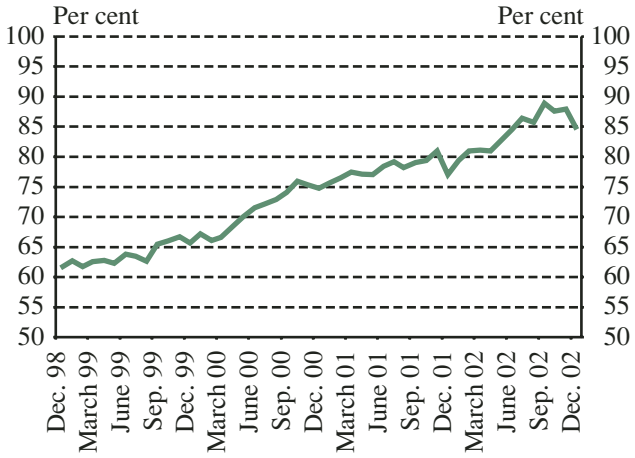
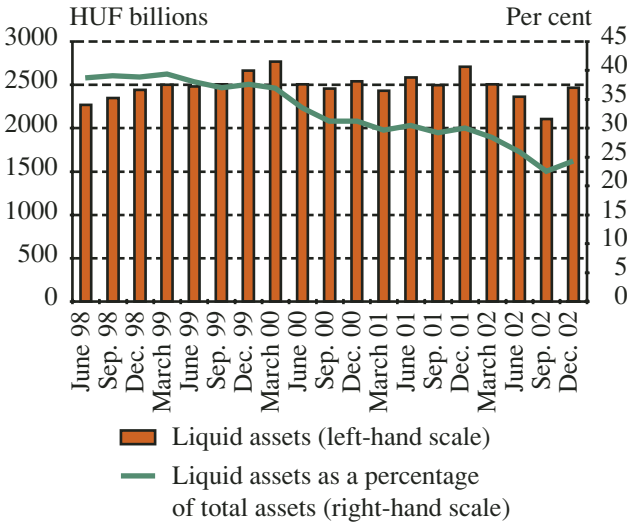


Chart II-47 Liquid asset* ratio[42]



* *Liquid assets: cash and settlement accounts, treasury bill and government bond holdings (excluding consolidation bonds), securities issued by the central bank and short-term claims on foreign banks*

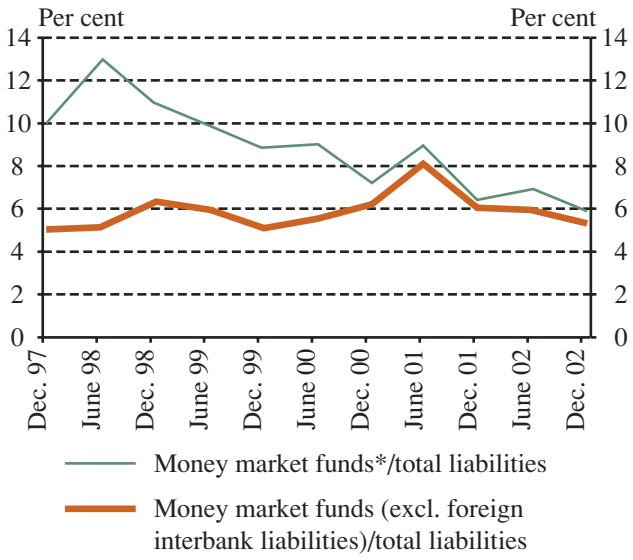
[40] There have been changes to the calculation of the indicator since the previous Report. Loans and deposits not only include corporate and household sector loans and deposits, but all loans provided to sectors other than credit institutions, deposits from entities other than credit institutions and securities issued by banks. Securities subscribed by other domestic credit institutions have been eliminated from securities.

[41] Source: OECD. In Greece and Portugal, the indicator refers to commercial banks and to the entire banking sector in the other EU member states (on the basis of 2001 data).

[42] The indicator has been calculated differently relative to the previous Report: liquid assets do not include claims with domestic credit institutions.

market liabilities as a proportion of total liabilities fell slightly relative to end-2001 *(see Chart II-48)*. This may be explained by the fact that, in addition to customer funds, banks ensured the source of the lending expansion partly by running down liquid assets. Over the medium term, in the absence of an increase in households' propensity to save, banks are expected to draw in foreign money market funds at an increasing rate, as the fall in liquid reserves will sooner or later run into obstacles. However, this may be counterbalanced by the higher role of bank-issued bonds in financing, which may gain new momentum following EU accession, due to demand generated by foreign institutional investors.

Chart II-48 **Money market exposure**

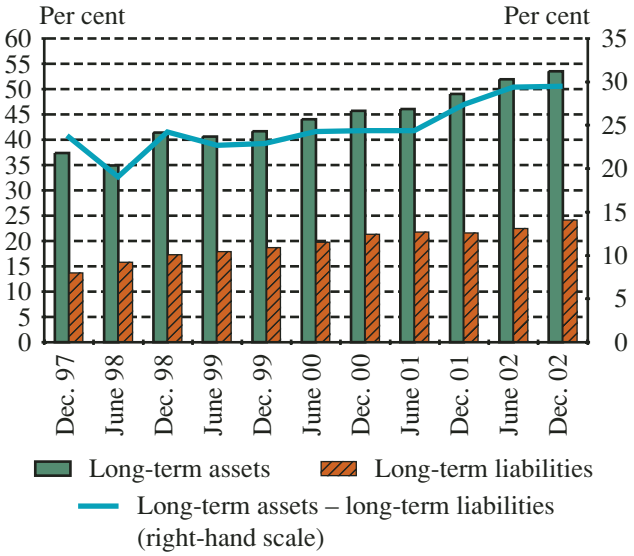


** Money market funds: short term interbank liabilities + central bank repo*

Maturity transformation by the sector continued to increase throughout 2002, although it stopped increasing further in H2, due mainly to the high volume of mortgage bond issues *(see Chart II-49)*.

The fast pick-up in housing loans was the major cause of the increase in long-term assets as a proportion of the total. However, banks only partly financed this using long-term liabilities. Credit institutions subscribed nearly a half of the increase in outstanding mortgage bonds in 2002, which marred the match of assets and liabilities on the aggregate level of the banking sector.

Chart II-49 **Long-term assets and liabilities of the banking sector as a proportion of the balance sheet total**



On the whole, banking sector liquidity tightened in 2002, with a further increase in the maturity mismatch of assets and liabilities. Nevertheless, the Bank judges the level of the sector's liquidity to be adequate. However, the continued increase in the loan-to-deposit ratio may carry risks to profitability, as banks may be increasingly forced to draw on more expensive funding, after they have depleted their opportunities from asset restructuring.

II. 6 Financial position and capital adequacy

In 2002, the sector's risk-adjusted balance sheet total rose robustly, at a rate exceeding that of the balance sheet total, explained by the uninterrupted lending expansion of recent years. As an effect of the salient increase in housing mortgage loans, the ratio of assets with a 50% risk weight rose by a factor of 2.6. Lending expansion has led to a restructuring of the risk-weighted balance sheet–the value of low-risk items (i.e. those with a zero or 20% weight) fell not only as a proportion, but in absolute terms as well. By contrast, higher-risk assets and off-balance sheet items[43] increased sharply *(see Table II-5)*.

The increase in the sector's regulatory capital was lower in comparison with that in the risk-adjusted balance sheet total. It increased by 14.5% after adjustment for expected reinvested capital[44] and regulatory capital by only 9.4%, due to higher deductions. Although the sector's ability to accumulate capital continues to be strong, the rise in activity is even stronger. Consequently, the CAR fell, as seen in the previous years. Its year-end value was 12.5% and 11.1% after and before adjusting for reinvested earnings *(see Chart II-50)*. This trend is reflected in a variety of ways among banks–it is mainly characteristic of banks with wide household and SME portfolios. In this group of entities, strategic investors stabilised the financial position of banks with poor capital strength by capital increase or providing subordinated loan capital. Consistent with the previous years' trends, the percentage share of supplementary capital elements within regulatory capital declined further; however, these stopped falling further in nominal terms.

Taking into account expected reinvested earnings, all banks complied with the statutory 8% minimum for CAR. Eliminating expected reinvested earnings, only one small bank failed to meet this criterion. The CAR registered by the five largest banks remained below the sector average; however, today only one of them registers a CAR consistently below 10%, though only slightly, due in part to the capital increases, as noted *(see Table II-6)*. As regards the other members of the sector, CAR values below this appear to be acceptable, taking into account that these banks own wide household and corporate portfolios, which keep risks low through better diversification.

From a prudential perspective, it would be appropriate if capital available for the bank were correlated with the size of risk carried by the bank, in addition to satisfying minimum capital requirements. As regards the

Table II-5 **Components of the risk-adjusted balance sheet total**

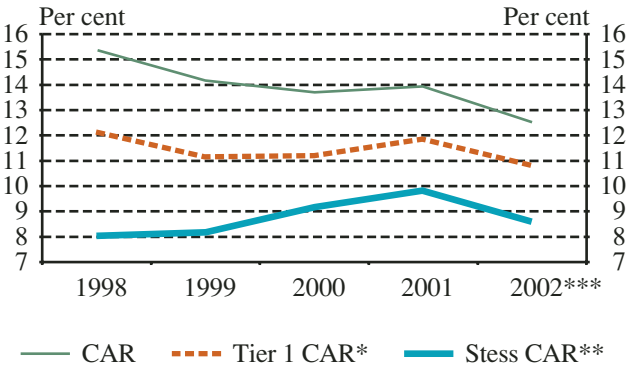
Assets at risk-adjusted values	31. 12. 2001	31. 12. 2002	2002/2001*
20 per cent weight	5.0%	3.9%	0.96
50 per cent weight	2.4%	5.2%	2.61
100 per cent weight	73.6%	70.4%	1.16
Sum of adjusted balance sheet items	80.9%	79.5%	1.19
Adjusted value of contingent and other future liabilities	18.2%	19.4%	1.29
Adjusted value of forward claims	0.8%	1.1%	1.58
Total adjusted balance sheet (HUF billions) = 100%	5363	6498	1.21

** The index values have been derived from incremental changes in the backround data, and not from the percentage shares.*

[43] The regulatory change, already noted, also contributed to the increase in contingent and other future liabilities.

[44] Regulatory capital is increased by 'banks' aggregate after-tax profit * (1 – dividend payout ratio)'. The dividend payout ratio appears to be more stable (in 2000 and 2001, it was 23.3% and 23.8%). Based on a cautious estimate, a 30% indicator was used for 2002. General risk provisions can be eliminated, as this increases the regulatory capital and reduced the after-tax profit and, consequently, the regulatory capital through retained earnings. This correction meant that the sector's regulatory capital amounted to HUF 979 billion and the regulatory capital for calculating CAR to HUF 815 billion at year-end.

Chart II-50 Capital adequacy ratio (CAR), stress CAR and tier 1 CAR



* *Tier 1 capital/risk adjusted total assets*
** *(tier 1 capital – net value of non-performing claims)/(risk adjusted total assets – net value of non-performing claims)*
*** *2002 data with adjustment of the anticipated reinvestment of earnings.*

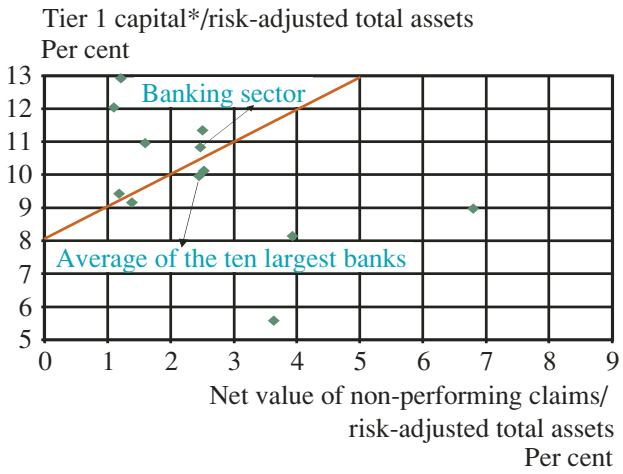
Table II-6 Capital adequacy ratio of the five largest banks

	31. 12. 01	31. 12. 02*
Share of the five largest banks of the banking sector's assets	60.4%	58.6%
CAR of the five largest banks	11.9%	11.3%
Average CAR of the banking sector without the five largest banks	16.7%	14.3%
Average CAR of the banking sector	13.9%	12.5%

* *Including expected reinvested earnings.*

risk-adjusted balance sheet total, the outstanding total of non-performing loans expresses the size of lending risk somewhat more explicitly, but refers to the banks' propensity to take on risks. That is the reason for the Bank introducing a new indicator in the previous *Stability Report*, known as stress CAR. This indicator shows a bank's financial position in an assumed situation in which all non-performing assets are written off 100%. On the basis of this, the Hungarian banking sector's financial position is adequate–even under such extreme circumstances, the tier 1 indicator would be higher than 8% (8.6%) and, excluding expected reinvested earnings, it would be 7.1% *(see Chart II-50)*.

Chart II-51 The ten banks with the highest balance sheet total, their average, the sector's average financial position and the ratio of non-performing assets, 31 December 2002



* *With adjustment of the anticipated reinvestment of earnings.*

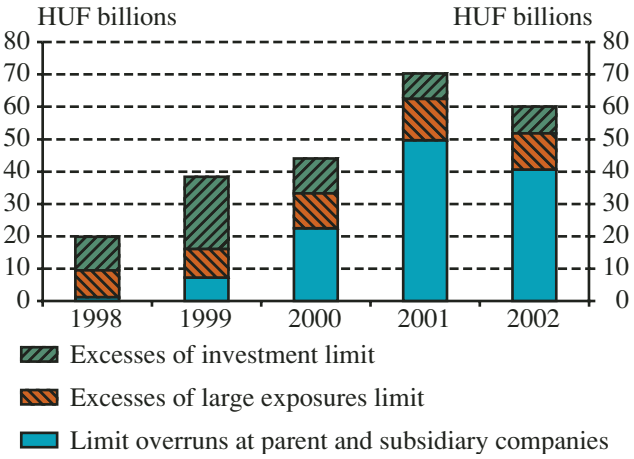
The ten largest Hungarian banks, relevant for system stability, individually or as a group or the sector as a whole can placed in a matrix defined by a capital axis (the ratio of primary capital-based CAR to risk-adjusted balance sheet total) and a risk axis (the ratio of the net value of non-performing assets to risk-adjusted balance sheet total, being the sum of possible maximum losses; see *Chart II-51*). The straight line dividing the field in two is a set of points, where, after incurring maximum losses, the primary capital-based CAR remains 8%,[45] i.e. here banks even comply with minimum capital requirements in such an extreme situation, without supplementary capital holdings. Based on this, the banking sector's financial position can be judged as strong in the face of unexpected credit losses. The average financial position of large banks relative to their credit risks is slightly weaker than the sector's average, but its distance from the straight line is not significant.

Consistent with the previous years' trends, the majority of write-offs relating to prudential regulations affecting deductions from regulatory capital were highly concentrated at 2 to 3 banks in 2002. The amount of deductions due to various excesses over limits fell from HUF 70.3 billion to HUF 60 billion in one year *(see Chart II-52)*. This was caused mainly by

[45] More exactly, it will be a little higher than 8%, as, in writing off non-performing assets to 100%, the net value of non-performing loans must be deducted not only from the numerator (primary capital), but from the denominator as well (risk-adjusted balance sheet total).

lower limit excesses over large risks related to affiliated companies. Their amount continues to be considerable and varies strongly. Capital deductions due to investment limits were slightly lower, falling from HUF 12.7 billion to HUF 11.2 billion. However, practically the whole amount can be linked to one entity. The amount of capital requirement related to country risk exposure increased from HUF 0.3 billion in 2001 to HUF 17.9 billion in 2002, which can be linked to one bank's activity in full. On the whole, the amount of excesses over limits and country risk exposure to be covered by capital increased further from its already high amount in 2001, from HUF 70.6 billion to HUF 77.9 billion *(see Chart II-53)*.

Chart II-52 Excesses over limits pursuant to the Credit Institutions Act

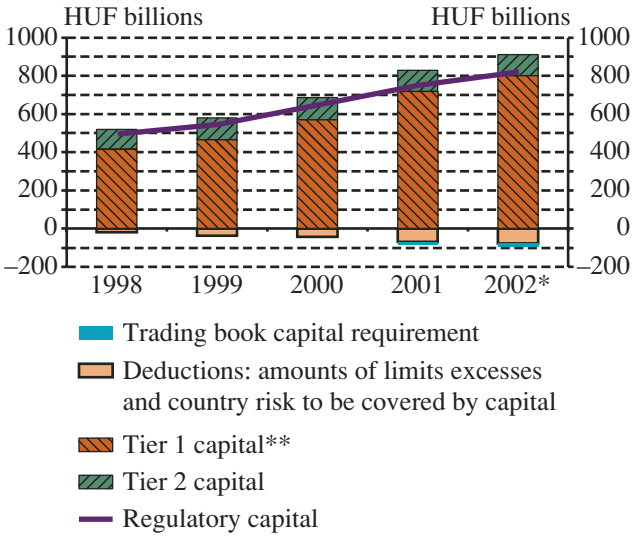


* *According to the Hungarian regulations limit excesses should be covered by capital.*

In 2002, the capital requirement of the trading book nearly doubled, from HUF 7.4 billion to HUF 14.6 billion. This increase was much higher than the nearly 30% decline in the capital requirement of exchange rate exposure. Consequently, the increase in the combined capital requirement amounted to 49%.

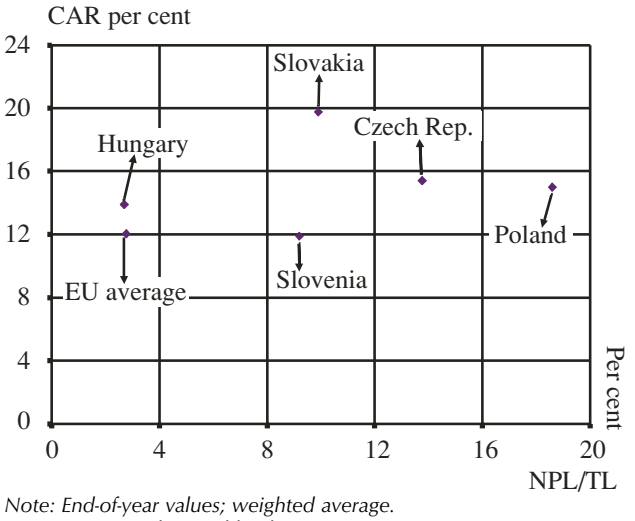
The banks in the region, serving as a basis for the comparison (except Slovenia), register CARs exceeding the European Union average *(see Chart II-54)*. This seems justified, due to the higher risks relative to those in Western Europe. Default risk, an important type of risk, expresses the ratio of all non-performing loans to total outstanding loans. Except in Hungary, this is higher in the region than in the EU. Based on these aspects, the Hungarian banking sector's financial position is currently seen as satisfactory and stable. It registers a higher CAR than the EU average, and the ratio of non-performing assets to the total is comparable with that of the European Union.

Chart II-53 Regulatory capital and its components



* *Lowered by the amount of deductions due to investments in other financial intermediaries.*
** *With adjustment of the anticipated reinvestment of earnings.*

Chart II-54 Ratio of CAR and non-performing loans in five CEECs and the European Union, end-2001



Note: End-of-year values; weighted average.
Sources: National central banks.

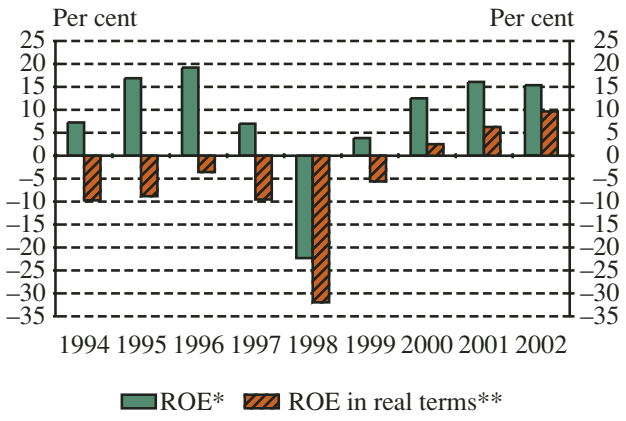
On the whole, the Hungarian banking sector's financial position continues to be stable, both in comparison with the region and Western Europe. Activity growth, particularly in the retail segment, will likely outpace the increase in banks' internal funds. Consequently, the Bank expects banks to reconsider their earlier dividend policies and pay less dividends.[46] In addition, they will likely have to rely on external funding, which their owners presumably will supply, as seen so far this year.

[46] Thus it is possible that this year's reinvestment ratio will be higher than in earlier years, used for the purposes of the analysis. Consequently, the Bank has perhaps underestimated banks' financial position towards year-end.

II. 7 PROFITABILITY

Based on preliminary data, the banking sector registered record profits in 2002, despite the worsening macroeconomic environment. At HUF 133 billion, after-tax profits were 9% higher than in the previous year. The sector's return on asset and return on equity indicators remained high: calculated on the basis of after-tax profits, the sector's ROA and ROE were 1.43% and 15.4%, respectively. Taking account of the considerable decline in inflation, the improvement which started in 2000 remained unbroken *(see Chart II-55)*.

Chart II-55 **Banking sector's ROE and real ROE**

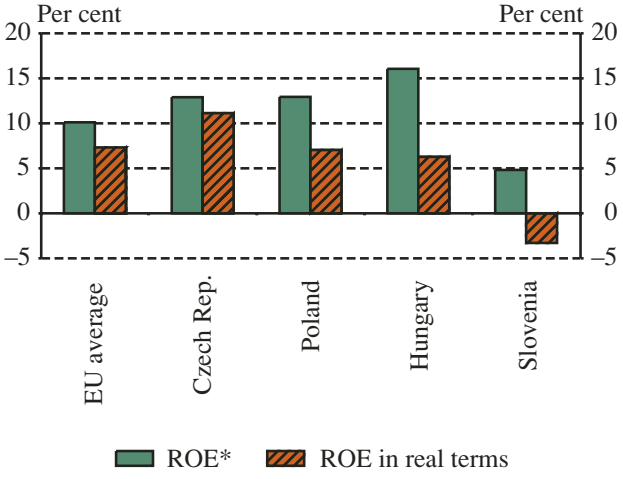


** Calculated with after-tax profit.*
*** ROE deflated by average annual CPI.*

The Hungarian banking sector's profitability indicators, calculated in nominal terms, are good in international comparison, both in relation to the EU average and similarly developed CEECs. Taking into account the inflation differentials as well, however, the picture is less favourable, as Hungarian banks register lower return on equity in real terms than the average of EU banks and the Czech and Polish banks as well *(see Chart II-56)*.

From a stability perspective, it is important to note that banks registering negative real ROE do not include any of the major institutions, unlike in previous years. The number of these banks fell from 18 to 12 and their combined market share from 26% to 9% in one year.

Chart II-56 **Hungarian banks' profitability in international comparison, 2001**

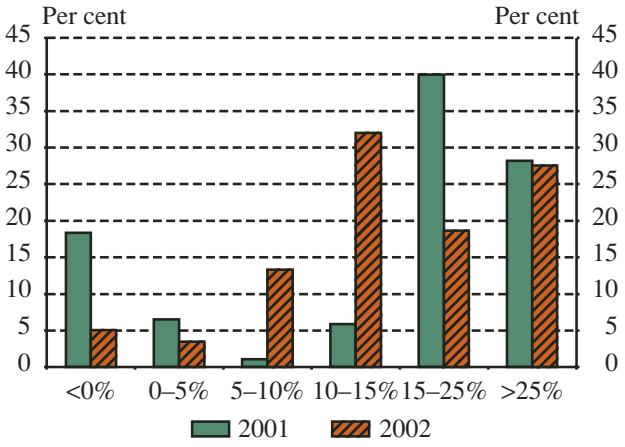


** Calculated with after-tax profit, except Slovenia (with pre-tax profit).*
Sources: ECB, national central banks.

Here, the number of loss-making banks fell from 13 to 9, which, in turn, can be explained by closures (either due to exit from the market or merger) in three cases. Whereas the sector's ROE barely changed, profit differentials among banks remained substantial and, as a consequence of a few large banks' mixed performance, the market shares of institutions belonging to the various income categories underwent some realignment *(see Chart II-57)*. The market share of banks registering below-average return on equity rose significantly, from 6% to 32%, mostly to the detriment of banks turning out above-average performance, their share falling from 40% to 19%. The share of banks with outstanding ROE, however, remained unchanged at 28%–29%.

Rising commission income provided one of the major sources of the increase in the sector's profits in 2002 *(see Table II-7)*. By contrast, growth in interest income slowed considerably relative to the previous year. The modest increase in operating costs also must have played a role in the sector's good 2002 performance. Improving the results, net increases in loss in value and risk provisions were smaller in comparison with 2001.

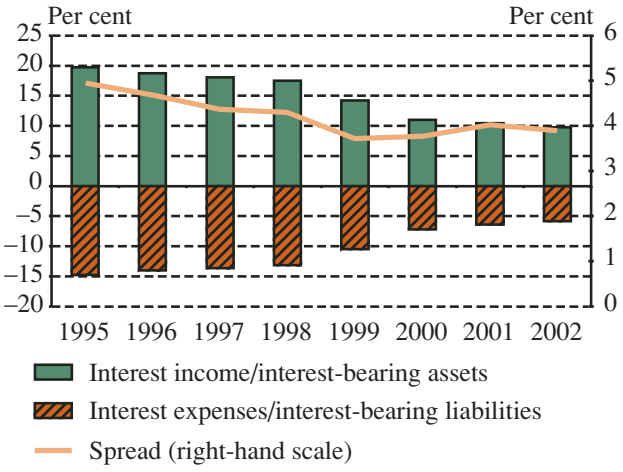
Chart II-57 Banks' market shares based on income brackets (on a ROE basis)



The increase in Hungarian banks' net interest income slowed considerably in 2002, both in nominal and real terms, by 10% and 7%, respectively. In this regard the weaker volume effect played a significant role, as the annual average growth rate of customer loans declined from 25% to 16%. By contrast, the shift in the composition of loans was a positive factor, owing to the very strong upsurge in household loans ensuring much higher margins. It should be noted, however, that growth in the most profitable household loans (i.e. consumer loans) slowed. Interest income on consumer credit and housing loans as a proportion of the total increased from 5% to 10% and from 10% to 16% as a proportion of total interest income on loans between 2000–2002. This is evidence of the increasing role of household lending in generating profits.[47]

The sector's spread fell marginally in 2002, following a rise in the previous year *(see Chart II-58)*, but continued to be high (3.9%). One factor causing the spread to fall was a further reduction in the tax on banks imposed by reserve requirements in the year under review. It amounted to around 25 basis points on average, comparable with that in 2001.[48] Although it is difficult to judge on the basis of aggregate data, banks did not or only slightly applied this to set more favourable prices for customers, as the spread still continued to be higher than in 2000.

Chart II-58 Components of spread



The net interest margin of the banking sector is high by international standards. The ratio of net interest income to total assets, is by 2.7 percentage points above the European Union average; moreover, it also exceeds the average of the CEECs examined by nearly 1.5 percentage points *(see Chart II-59)*.

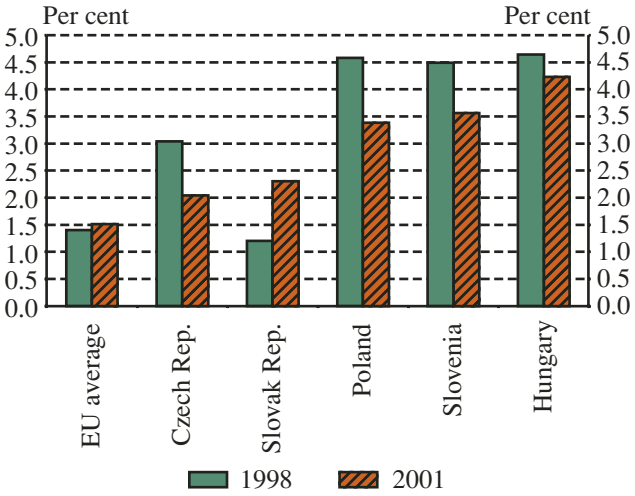
Table II-7 Banking sector profits

	2001	2002	Change	
			HUF millions	Index
Interest income	355 650	377 866	22 216	106.2%
Dividend income	4 988	3 936	–1 052	78.9%
Fee and commission income	102 384	129 047	26 663	126.0%
Net profit on financial operations	60 254	45 208	–15 046	75.0%
Other income	–23 626	–38 783	–15 157	164.2%
Operating costs	323 757	341 260	17 503	105.4%
Change in value adjustments and provisions	–35 021	–25 473	9 548	72.7%
Profit on ordinary activities	140 872	150 541	9 669	106.9%
Extraordinary profit	5 000	6 906	1 906	138.1%
Pre-tax profit	145 872	157 447	11 575	107.9%
After-tax profit	120 149	131 343	11 194	109.3%

[47] Although housing loans and consumer credit do not cover all household loans and they also include a small amount of entrepreneurial loans as well, these are the most suitable for presenting the role lending to household plays in profit generation.

[48] It should be noted that this only provides a lower estimate for the annual average decrease in tax, as the effect of narrowing the reserve base has not been taken into account in the calculation.

Chart II-59 **Net interest margin in international comparison***



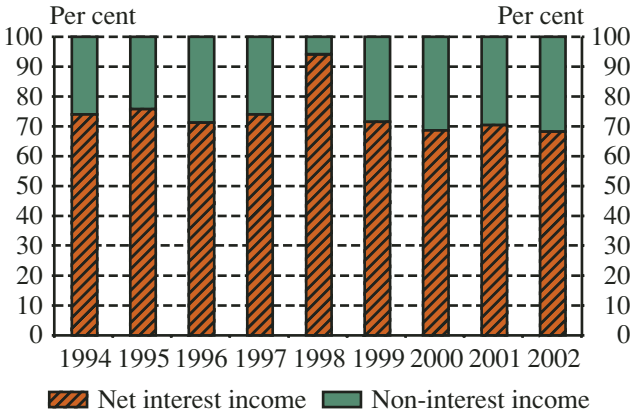
* *Net interest income/average balance sheet total.*
Sources: ECB, national central banks.

Comparing the retail segment with the corporate segment, it is striking that, while the loan portfolio quality and the loss-in-value to the gross value ratio are only slightly higher in the case of household loans (2% and 2.2%, respectively in the case of corporate and household loans), the risk margin of consumer loans (13.7%) and even that of the less risky mortgage loans (6.7%), is much higher than that of corporate loans (1.3%).[49] This is partly justified by the pricing in of higher risks (for example, due to the fledgling market and lack of adequate debtor information systems). In addition, the higher unit cost of household lending is also reflected in the higher margin. In the Bank's view, the large difference between margins is partly explained by the fact that the intensity of competition in the retail segment is still considerably lower than in the corporate segment, which currently allows banks to exploit opportunities for earning extra profits, due to their pricing power.

The massive 26% increase in fee and commission income resulted in a spectacular change in banks' income profile. Commission income as a proportion of gross operating profits rose from 19.5% to 23.3%, which was not significantly lower than the European Union average (2001: 26.8%). It should be noted, however, that the increase in net commission income relative to 2001 was fairly unevenly distributed among banks. Consequently, the degree of concentration of commission income was fairly high compared, for example, with interest income. One important source of the robust increase in commission income was banks' non-interest income linked to housing loans.[50] Revenues from the bank card business also played an important role in the dynamic rise in net fee and commission income, as turnover conducted using domestically-issued bank cards rose by 18.6% in real terms in 2002 (by 11.6% in 2001), consistent with the pick-up in growth in household real income and consumption. In addition, income from bank guarantees rose rapidly, by 48%. Increases in transaction costs and charges linked to payment and bank card services in excess of inflation also added to the effect of a fast pick-up in commission activity.

Profits of financial transactions fell by 25%. After eliminating the effect of the sale of MÉBIT from the base data, profits on financial transactions rose by 7.2% in 2002. Here, profits of foreign currency trading and exchange rate gains, accounting for the largest share, rose by only 5%, well below the increase in 2001 (26%). The sector registered a loss of nearly HUF 10 billion on foreign exchange derivatives. Net results from securities holdings, however, improved, showing a HUF 4 billion profit, following the HUF 3 billion loss recorded in 2001.

Chart II-60 **Interest and non-interest income as a proportion of gross operating profits**



Overall, there was a shift in the income structure towards non-interest income *(see Chart II-60)*–non-interest income as a proportion of gross operating profit[51] rose to 31.8% from 29.7% in the previous year.[52] Nevertheless, Hungarian banks continue to show a wide difference with banking systems of the European Union in terms of income profile–in the EU, non-interest income accounted for an average share of 42% within gross operating income in 2001.

[49] Risk margins are expressed in annual averages. The risk-free returns are three-month (corporate loans), one-year (consumer credit) and five-year (housing loans) benchmark rates. In the case of home loans, the risk margin is considered an upper estimate, as interest on subsidised housing loans, accounting for the vast majority of the volume increase, was not included in interest on house loans in 2002.
[50] Under the Hungarian accounting rules, these do not include commission fees, such as service charges, disbursement fee or commitment fee.
[51] Gross operating profit = gross profit on financial and investment services – change in value adjustments/provisions – other income.
[52] Excluding the effect of the sale of MÉBIT in 2001.

The increases in negative value adjustments and specific provisions were HUF 10 billion lower in 2002 than in the base period, which improved the banking sector's results significantly, although the audited data will likely reflect higher losses in value. The increase in value losses was higher in the case of loans than in the previous year. Banks recorded much lower losses on holdings of shares and other investments which helped to improve the balance. In addition, they generated lower net specific provisions for contingent and future liabilities than in 2001.

Losses incurred on other items of the profit and loss account increased by HUF 15 billion relative to a year earlier. This was attributable in part to the considerable increase in net general risk provisions and in part to the fact that releases of specific provisions, due to changes to regulations in 2001 (affecting, for example, provisions for exchange rate loss and country risk provisions), had improved banks' results in the base period.

In 2002, operating costs of the banking sector rose almost identically with average inflation (5.4%). A large part of the relatively modest rise in aggregate costs can be explained by cost savings due to bank mergers in 2001. Excluding the banks affected by mergers, however, costs increased well in excess of inflation (11.3%). Personnel costs were 10% higher in a year-on-year comparison, as a result of increases of 1.7% and 8.2%, respectively, in average staff and personnel costs per employee, their share in total operating costs grew to 43%.[53] As a consequence of the ongoing information technology development projects, banks' IT expenses rose by 15%, much faster than average costs. In contrast, depreciation charges fell by 8%, due mainly to office closures and sales of property following the merger of K&H and ABN AMRO.

The moderate increase in operating costs and the robust increase in commission income resulted in further improvement in the costs-to-income ratio, which fell from 63.4% to 61.6%.[54] After stagnating in the previous year, the operating costs-to-balance sheet total ratio improved to 3.7% in 2002 *(see Chart II-61)*.

This ratio is not only high relative to the EU average (2001: 1.7%), but also exceeds the average of the other CEECs examined as well (2001: 2.9%), suggesting that Hungarian banks' cost efficiency continues to be relatively weak in international comparison *(see Chart II-62)*.

The relatively small size of the banking market may partly explain the lag of the Hungarian banking sector in terms of efficiency. It has been empirically proven that banks' cost efficiency, measured by the costs-to-total assets ratio is closely correlated with the depth of banking intermediation. One possible explanation for this is that deeper banking intermediation is associated with more intense competition, which forces banks to operate more efficiently and pushes down costs. According to another hypothesis, economies of scale can be interpreted not only individually but at the system level as well ('systemic scale economies'). For this reason, the costs of banks operating in larger, and deeper, markets tend to be lower.

Chart II-61 **Operating costs as a proportion of the balance sheet total**

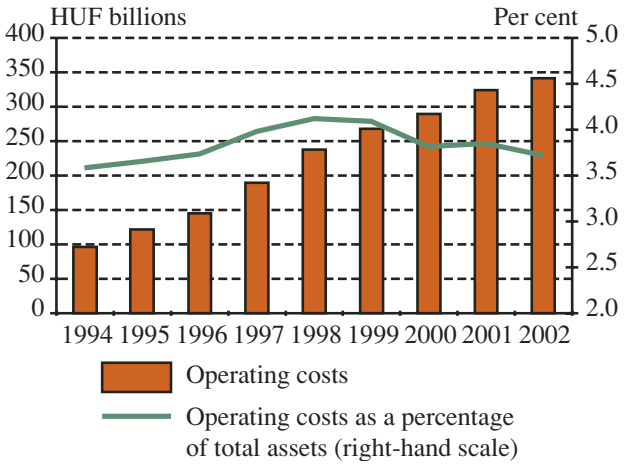
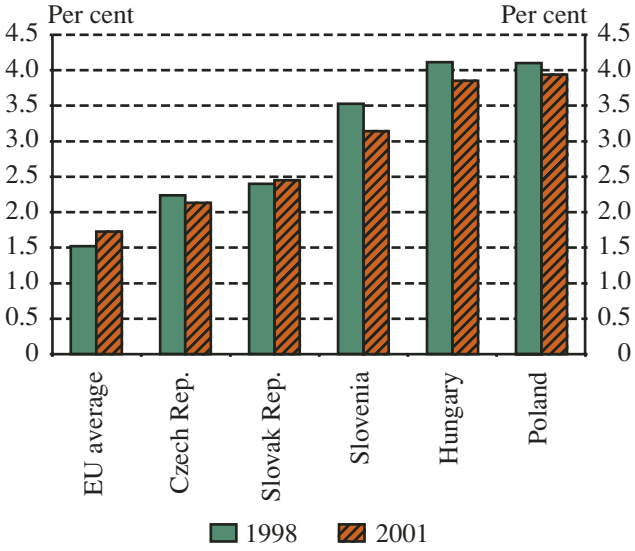


Chart II-62 **Operating costs-to-total assets ratio in international comparison**



Sources: ECB, national central banks.

[53] Excluding bank mergers, personnel costs rose by 14.3%.
[54] After eliminating from the base data the revenue and cost effects of the sale of MÉBIT.

III. The activities of savings cooperatives in 2002

III. 1 Market share, capital position

The aggregate balance sheet total of savings cooperatives has been growing at a higher rate than that of the banking sector for several years. The sub-sector's market share rose by 2 percentage points in five years. Comparing with household savings and the modest, 6.7% increase in household deposits in the banking sector, the huge, 25.5% rise in households deposits with savings cooperatives may seem surprisingly strong. There may be several reasons for this difference. First, alternative vehicles for investment are certainly gaining ground more slowly in the countryside. Second, the decline in household savings, closely related to the home-building activity induced by the housing subsidy scheme, has affected classic customers of savings cooperatives less than those of commercial banks, as the pick-up in the housing market has been more observable in large towns and cities. Third, anonymous deposits have had a higher share of savings cooperatives ' liabilities, which have been reclassified as household sector deposits, due to the abolition of anonymous deposits *(see Table III-1)*.

The growth rate of the sub-sector's equity was lower than that of its balance sheet total in 2002, as seen in the previous years. Its activities rose more strongly than capital accumulation, indicating a substantial decline in the sub-sector's capital adequacy ratio as well *(see Table III-2)*.

Table III-1 **Market share of savings cooperatives within credit institutions**

Per cent	1997	1998	1999	2000	2001	2002
Balance sheet total	5.18	5.63	5.95	6.15	6.59	7.12
Equity	4.62	4.81	5.03	5.14	5.20	5.22
Household deposit	11.20	11.98	12.32	12.67	13.34	15.32
Household loans	16.41	18.16	18.25	19.79	19.35	15.16
Corporate deposit	1.95	2.61	2.95	3.39	3.04	3.20
Corporate loans	1.81	2.52	3.37	3.33	2.84	3.27

Note: In 2001, sole proprietors were classified from the corporate sector into the household sector.

Table III-2 **Capital adequacy ratio of savings cooperatives**

Number	2001			2002		
	OTIVA-members	Others	Total	OTIVA-members	Others	Total
CAD between 8–10%	7	1	8	14	2	16
CAD between 10–12%	12	1	13	24	2	26
CAD between 12–15%	34	2	36	41	4	45
CAD above 15%	115	13	128	87	9	96
Aggregated CAD ratio	16.94%	17.10%	16.96%	14.34%	14.03%	14.29%

Source: HFSA.

At the end of 2002, 16 savings cooperatives failed to comply with the HUF 100 million minimum capital requirement set for end-2003. Another 97 entities did not comply with the HUF 200 million and HUF 250 million minimum requirement set for end-2006 and end-2007, respectively. It should be noted, however, that the EUR 1 million (approximately HUF 250 million) threshold for the minimum capital requirement in the European Union is easy to comply with and can only be applied if certain conditions are met.[55] By default, EU regulations require that credit institutions have a minimum equity of EUR 5 million, irrespective of the form of ownership. Meeting the capital requirement on a group or consolidated basis is only authorised, if the individual credit institutions are subordinated to a central organisation which supervises them, the obligations of the central organisation and the subordinated credit institutions are universal, etc. Hungarian integration[56] does not meet the criteria of group-level treatment as set out in EU regulations and, moreover, in amending Act CXII of 1996 on Credit Institutions, the obligation of belonging to an integration was abolished. The minimum capital requirement refers universally to all savings cooperatives, irrespective of membership in an integration. At the end of 2002, average own capital per savings cooperative was HUF 254 million in the case of OTIVA-members (HUF 211 million at end-2001) and it was HUF 425 million in the case of non-OTIVA member savings cooperatives (HUF 372 million at end-2001). Most of the significant increase in average own capital resulted from reinvestment of profits earned, given that the wave of acquisitions stalled in 2002, with only one merger taking place. Significantly more mergers are expected in 2003, taking into account the deadline for meeting the HUF 100 million threshold for minimum capital. Afterwards, in 2006, significant merger activity is anticipated, as savings cooperatives must meet the HUF 200 million limit by end-2006. Taking account of the expected mergers and assuming similar results to those of previous years, the Bank expects average equity to increase further, at an even stronger pace in 2003. This, however, will likely lag considerably behind the EUR 5 million minimum capital requirement for independent credit institutions of member states of the European Union *(see Table III-3)*.

According to the latest amendment to the Credit Institutions Act, minimum membership of savings cooperatives must reach 200 by end-2004. Membership, however, has fallen by around 60% in recent years. At the initiative of management, a few savings cooperatives have raised the internal requirement for the minimum par value of shares held by a single member, at the same time as abolishing the upper limit for shares a member is entitled to subscribe. Such modifications of internal rules are obviously aimed at concentrating shareholdings in a few hands, which is inadequate to the standards of savings cooperatives. Should this phenomenon gain further ground in the sub-sector, the question of what justifies the more benign regulations of savings cooperatives, for example, in respect of the minimum capital requirement, would be raised with good reason.

Table III-3 **Savings cooperatives' own capital**

Number	2001			2002		
	OTIVA-members	Others	Total	OTIVA-members	Others	Total
Less than HUF 100 millions	25	2	27	14	2	16
Between HUF 100-250 millions	98	2	100	96	1	97
More than HUF 250 millions	44	13	57	56	14	70
Average own capital (HUF millions)	211	372	226	254	425	270

[55] For more details, see Article 4 of Second Council Directive 89/646 (EEC) of 15 December 1989.

[56] The analysis only covers integration in OTIVA, as, in the case of the other integration of savings cooperatives (TÉSZ-TAKIVA), the positive effects of the integration are less perceptible relative to operation on an individual basis, due to the small size of integration (the number of members is slightly more than 10).

III. 2 Lending activity, portfolio quality

In 2002, outstanding loans to the corporate sector, and consumer credit and other loans of savings cooperatives rose by 18% and 21%, respectively, more robustly than those of the banking sector. However, despite the increase of 36% in housing loans, savings cooperatives suffered a significant loss of market share in the year under review (from 19% to 11%). The major reason for this was that savings cooperatives were unable to directly participate in independent lien-based subsidised housing loan schemes, as savings cooperatives individually do not belong to the customer base of mortgage banks. In respect of the outstanding house loans of savings cooperatives, it should be noted that, in the case of loans to build new homes, the actual value of properties providing a cover for the loan may be lower than the costs of construction financed by loans in small settlements in certain regions of Hungary. Accordingly, in the case of delays in loan repayments, the marketability of the mortgage is doubtful. However, the shift in lending by savings cooperatives towards towns may add to concerns, without developing adequate risk management systems.[57]

The aggregate loan portfolio of OTIVA-member savings cooperatives improved in 2002. However, the sub-sector continues to register a considerably worse portfolio than the banking sector. Indicating the positive effects of integration, the aggregate portfolio of OTIVA-member savings cooperatives has been better for several years than that of non-OTIVA member savings cooperatives *(see Table III-4)*.

As a result of savings cooperatives registering worse portfolio quality, loan loss ratios relating to the overall portfolio as well as sub-standard, doubtful and bad assets, viewed as non-performing for the purposes of the analysis, are higher than in the case of the banking sector *(see Table III-5)*.

Table III-4 **Quality of savings cooperatives' balance sheet items**

Per cent	OTIVA-members		Others		Banking sector
	2001	2002	2001	2002	2002
Problem-free	62.7	67.2	65.5	63.3	88.6
Special watch	30.5	27.3	22.4	26.9	7.7
Substandard	2.7	2.2	3.5	2.1	1.7
Doubtful	1.6	1.4	2.1	2.7	1.0
Bad	2.4	1.9	2.6	2.3	0.9
Qualified total	37.3	32.8	30.5	33.8	11.4
Non-performing	6.7	5.5	8.1	7.0	3.6

Source: HFSA.

[57] For more details, see the chapter on savings cooperatives in the June 2002 Report on Financial Stability.

Table III-5 **Loan loss ratios of savings cooperatives**

Per cent	OTIVA-members		Others		Banking sector
	2001	2002	2001	2002	2002
Special watch	3.1	3.0	2.8	2.3	2.2
Substandard	20.2	20.0	21.5	15.5	21.1
Doubtful	48.0	50.7	41.6	47.0	47.5
Bad	89.9	92.9	80.8	88.9	88.5
Total portfolio	2.7	2.2	2.6	2.6	1.8
Non-performing	51.6	53.4	45.5	51.3	45.6

Source: HFSA.

III. 3 PROFITABILITY

Savings cooperatives have seen their profitability improve over the past two years. OTIVA-member cooperatives have been operating much more profitably than their non-member counterparts. This reinforces the importance of economies of scale and scope in improving efficiency. Return on equity registered by OTIVA-member cooperatives in 2002 was higher than that registered by the banking sector. However, given the poorer capital strength of savings cooperatives relative to banks', a better picture emerges if cooperatives' return of assets are compared with that of banks. Cooperatives' ROA remained much below banks' in 2002, as seen in the previous years (*see Table III-6*).

Taken individually, domestic savings cooperatives are very small in size. Building the risk management systems indispensable for safe operations and development as well as the IT infrastructure are very costly, which savings cooperatives individually are incapable of financing as a consequence of their size. A comparison of the asset quality and profitability indicators of OTIVA-members and cooperatives outside the OTIVA integration underlines the positive effects of the current loose integration. Nevertheless, the majority of problems facing savings cooperatives could be remedied much more efficiently in a considerably closer integration and co-ordinated market presence than currently. International experience appears to underline the importance of centralisation as well. Consequently, supporting more prudent domestic regulations, close integration and joint commitment would contribute to the growth of Hungarian savings cooperatives. The planned new European Union capital directive also creates incentives to move in this direction.[58] Compared with this, the latest amendment to the Credit Institutions Act, unfortunately, has even abolished the obligation to belong to a loose integration, providing no incentive for savings cooperatives to belong to the integration. As a consequence, if the integration is forced to handle a major crisis situation, a part of the member cooperatives will likely quit, lest they should make sacrifices in order to save their co-member(s).

Table III-6 **Profitability of savings cooperatives**

Per cent	2001		2002	
	ROE	ROA	ROE	ROA
OTIVA-members	15.0	1.15	18.3	1.33
Others	10.1	0.84	11.0	0.85
Total	14.2	1.10	17.2	1.26
Banking sector			16.9	1.64

Note: Equity and balance sheet total calculating with the averages of year-ends.

[58] The international trends of savings cooperatives and the challenges of the planned European Union capital directive are dealt with in a separate article.

IV. Non-bank financial intermediaries

The activities of Hungarian non-bank financial intermediaries varied by type of institution in 2002. The three types of institutional investors, i.e. investment funds, pension funds and life insurance companies, continued to increase further their share of the market in re-channelling household and corporate sector savings *(see Chart IV-1)*. In addition, savings held with non-banks as a proportion of GDP showed a deepening in the intermediary role *(see Chart IV-2)*.

Chart IV-1 **Distribution of household and corporate sector savings held with financial intermediaries by intermediary institution**

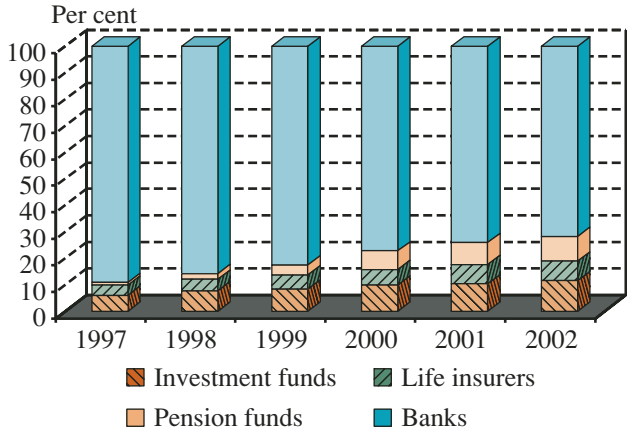
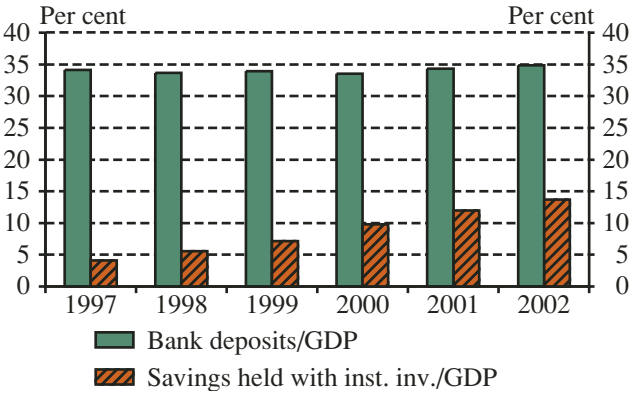


Chart IV-2 **Household and corporate sector savings held with financial intermediaries as a proportion of GDP**



Despite continued growth over the past few years, the depth of Hungarian non-bank financial intermediation still lags behind that seen in the less advanced EU countries *(see Table IV-1)*. Convergence is progressing at a slightly slower pace than expected.

Table IV-1 **Financial assets of institutional investors as a proportion of GDP in EU countries in 2000**

	Pension funds	Investment funds	Life insurers
Austria	12	40	24
Belgium	6	30	42
Denmark	24	20	78
United Kingdom	81	27	107
Finnland	9	10	57
France	7	55	61
Greece	4	25	1
Netherlands	111	25	65
Ireland	51	144	45
Luxemburg	1	3867	117
Germany	16	12	43
Italy	3	39	21
Portugal	12	16	20
Spain	7	30	13
Sweden	57	34	90
Hungary*	4.5	5.5	3.5

** 2002 data.*
Source: OECD.

As in earlier years, pension funds continued to grow the most dynamically in 2002, accompanied by a fall in their number. This consolidation process has been motivated by efficiency factors, which should be interpreted as positive news for system stability, even if the sector is becoming more heavily concentrated as a result. Investment funds grew a little less robustly than pension funds: money market funds and bond funds achieved significant increases in asset values, although last year assets managed by domestic share funds also rose, breaking a downward trend seen over the past few

years. Following the slight drop in 2001, the increase in life insurance reserves was once again stronger than that in household financial wealth. Unit-linked and mixed life insurance schemes played the dominant role in the increase. The life insurance sector is very highly concentrated, with the three largest participants holding 71% of the market.

The share of risk-free government securities fell in institutional investors' portfolios; however, they still account for the majority of investments.

The number of investment firms[59] continued to fall, due to withdrawals from the market, on the one hand, and mergers into the parent bank, on the other. As an effect of relatively favourable turnover in the share market and a pick-up in own account activity in the government securities and foreign exchange markets, the firms in the sub-sector with operating licences turned out good results in 2002. Contributing to this, they cut personnel costs dramatically. The capital requirement, calculated on the basis of trading-book rules, shows that the risks facing the sub-sector are relatively low. In the case of financial enterprises, operating risks continue to be a factor which is the most difficult to quantify and causes the largest losses.

The dynamic growth of financial enterprises in 2002 was due primarily to the more than 60% upsurge in vehicle leasing. Despite their large number, financial enterprises still do not play a significant role within the financial intermediary system in terms of business volume.

From the perspective of stability of the financial intermediary system, the Bank judges non-bank financial intermediaries' activities as carrying low risks, based on 2002 developments. The extremely robust increase in financial enterprises' car financing activity, however, deserves special mention, as less stringent regulations apply to them than to banks.

[59] From a system stability perspective, the sector is small and carries increasingly lower risks. Consequently, the Report does not deal with investment firms in a separate section.

IV. 1 Investment funds

GENERAL

In 2002, the number of investment funds increased by one, as a balance of closures, mergers and the establishment of new types of fund. Total assets managed by investment funds rose substantially, increasing by 33% (by 27%[60] in real terms) in the year under review *(see Table IV-2)*. Inflows of fresh capital and revaluation of investments accounted for around HUF 190 billion and HUF 47 billion, respectively, of the total HUF 237 billion increase.

Table IV-2 **Number and net asset value of investment funds**

	2000	2001	2002
Net asset value (HUF billions)	568	711	948
Number of funds	110	100	101
– open-end	107	97	97
– closed-end	3	3	4

The vast majority of the increase of assets managed affected lower-risk domestic bond and money market funds; however, breaking a downward trend spanning several years there was also an increase in absolute terms in assets managed by domestic share funds, despite the volatile performance of the market. Net asset value of mixed funds fell, while those of real property and international funds increased. Bond funds and money market funds dominate the market, accounting for nearly 90% of total assets managed. The majority of investment fund managers are owned directly or indirectly by banks. Their share of the market in respect of assets managed is 96%–98%.

The major holding sectors account for stable proportions of investment units–households are dominant, purchasing nearly 80% of shares *(see Table IV-3)*. Savings held in investment units accounted for 6% of households' gross financial worth at end-2002. Propensity of other legal entities, in particular pension funds, to purchase is growing.

Table IV-3 **Distribution of investment units by major holding sectors (per cent)**

	2000	2001	2002
Credit institutions	2.1	2.2	2.7
Other legal entities	14.1	15.1	18.8
Households	81.5	80.6	77.5
Non-residents	2.3	2.1	1
Total	100	100	100

Funds' profitability is shaped by the uncertainty experienced in the fixed-income and equity markets. In 2002, funds' profitability reflected the volatile performance of domestic and international markets, the strengthening forint and fluctuations in government securities yields. Generally, funds operating at low risk ensured higher returns for investment unit holders than bank deposit rates. International share funds were the clear losers–they turned out negative results, almost without exception. It was a characteristic feature of the sub-sector that the volatility of returns offered by investment funds, apart from a few exceptions, were lower than the benchmark's. Consequently, they managed to exploit the advantages offered by diversification.

As of 1 January 2002, the Capital Market Act brought significant changes in respect of investment funds. In comparison with the old legislation, under the new regulations prudential rules are stricter, investment rules are more liberal and more detailed rules apply to the contents and modification of management instructions. The new regulation defines new underlying types of funds, such as index funds, funds investing in funds, funds investing in derivative products, property trading

[60] Calculating with a 4.8% December 2002/December 2001 consumer price index.

funds and property development funds. The Act provides opportunities to undertake return guarantees,[61] but only in cases, when such guarantees include the preservation of capital as well and are backed by a bank guarantee.

RISKS

Foreign assets account for a significantly higher share within funds' investments; however, domestic investments continue to dominate their activities *(see Table IV-4)*. Lower-risk assets, government bonds, discount treasury bills, mortgage bonds and bank deposits dominate domestic assets, although their proportion of total investments is lower, due to the increase in foreign assets.

The Bank did not renew its maturing MNB bills in 2002 Q1. As a consequence, the outstanding amount of bills practically fell to zero within funds' domestic assets. To replace maturing MNB bills worth HUF 216 billion in 2002, funds purchased discount treasury bills, government securities and mortgage bonds, in addition to placing bank deposits. Shares are low as a proportion of total domestic assets, due to the weak stock market performance, as already noted.

An underlying feature of the sub-sector is that the risks of investments are borne by investors in full. Consequently, investment funds carry low risks to financial stability. In principle, the rule to undertake a return guarantee, which refers to the requirement of preserving capital, may add to the risks carried by investment funds. Consequently, this type of risk appears mainly within the banking group and is borne by the parent institution.

Table IV-4 **Composition of investment funds' assets**

	2000	2001	2002
Domestic investments	93%	94%	89%
Deposits	2%	11%	20%
Government bonds	24%	24%	24%
T-bills	21%	21%	26%
MNB bills	35%	31%	0%
Corp. bonds and securities other than shares	3%	3%	8%
Shares	6%	3%	3%
Real property	1%	1%	2%
Other	1%	0%	6%
Foreign investments	7%	6%	11%
Total	**100%**	**100%**	**100%**

[61] Defined by the Act as a promise of return.

IV. 2 Pension funds

GENERAL

In 2002, the number of pension funds continued to fall. The consolidation process underway in the market explained the reduction of the number of funds. However, the merger of funds not reaching economies of scale, operating inefficiently as well as the closures resulted in an improvement in the overall efficiency of the sub-sector. The fact that only funds associated with a bank or insurance corporation have managed to increase membership in the past two years suggests that concentration will likely increase in the future. Only 7 funds had membership reaching the 100,000 mark, considered to be adequate in terms of economies of scale at end-2002.

Assets accumulated by members in the two types of funds for pension purposes amounted to HUF 771.1 billion at end-December. This was 34.3% higher in nominal terms and 28.2% in real terms relative to the previous year's end *(see Table IV-5)*. There was a considerable shift in assets managed by the two types of fund during the year under review-for the first time since their establishment, private pension fund assets exceeded assets accumulated in voluntary pension funds. However, the size of average assets per member continued to be higher in voluntary pension funds.

The end-2002 value of assets managed by pension funds amounted to 6% of households' financial worth. Identified membership fees paid into voluntary and private pension funds during the year, at HUF 188.2 billion, were 12.0% and 6.5% higher in nominal and real terms, respectively, relative to the previous year.

In contrast to the trends of previous years, membership in private pension funds fell slightly in 2002. The two major reasons for this were the decline in new members explained by regulatory changes (the abolition of mandatory membership by new entrants into the job market) and the re-entry by 18,000 private fund members into the compulsory social security system, in which the loss of confidence related to the abolition of the standard contribution rate at end-2001 also played a role.

In contrast with private funds, total membership of voluntary pension funds rose gradually throughout the year under review. The stimulating effect of employer's contributions provides explanation for the rise in membership in voluntary pension funds in recent years.

Around one-half of private pension funds' founders are banks or insurers. By contrast, funds established by employers continue to dominate voluntary pension funds in terms of ownership control. The episodes of mergers of private funds in the past year have brought about an increase in the percentage share of funds associated with an insurance company. At end-2002,

Table IV-5 **Aggregate data for private and voluntary pension funds**

	Private pension funds			Voluntary pension funds		
	2000	2001	2002	2000	2001	2002
Number of operating funds	25	22	18	116	98	82
Membership (thousands)	2193.4	2252.7	2225.4	1080.6	1153.1	1180.0
Assets (at book value, HUF billions)	175.6	283.1	413.1	224.0	291.0	358.0
Revenue from membership fees (HUF billions)	98.2	104.1	117.3	58.6	64.0	70.9
Operating costs (HUF billions)	5.4	6.7	7.1	3.4	3.6	3.7
Net income on private accounts (HUF billions)	7.3	15	22.1	13.7	17.3	20.6

the 5 largest private pension funds (of which 4 were associated with an insurer) accounted for 82% of members and 54% of assets managed. Recent developments in the voluntary fund segment have also resulted in a higher share of funds associated with a bank or an insurer.

Price movements of shares held in relatively small amounts were the most important factor influencing pension funds' returns in the period 1998–2001, given the downward trend of government securities yields. In 2002, however, it was movements in the government securities market that had the most important effect on funds' returns over the year as a whole, despite the decline in foreign stock markets and stagnation in the Hungarian market also playing a role in the unfavourable trends of returns in Q1–Q3. The official rate reductions in Q1 and Q4 as well as the interest rate increase in the summer months required managing government securities holdings proactively. Judging from success with asset management, returns registered by pension funds were widely dispersed. Private and voluntary pension funds annual average net returns of 7.4% and 7.9% respectively in 2002.

RISKS

Basically, pension funds continue to pursue risk averse investment strategies. They do not utilise the regulatory limits on investment alternatives carrying higher risks. Considering the composition of their portfolios, assets directly held in shares as well as government and central bank securities fell, accompanied by an increase in mutual funds shares and mortgage bonds, both as a proportion of total asset holdings *(see Table IV-6)*.

Funds associated with an insurer are more cautious investors–risk-free government paper and low-risk mortgage bonds account for a high proportion of their total portfolio. By contrast, equities account for a higher percentage of investments by funds associated with a bank. Another factor influencing profitability of investments was that in the past year a number of pension funds have purchased foreign securities carrying lower risks, instead of domestic equities.

Members directly bear the risks of investment by pension funds, which, in turn, does not affect the solvency of funds. From a profitability perspective, the choice of asset manager is of crucial importance, given that his skills and activity fundamentally influence the returns achieved on a portfolio.

In the case of voluntary pension funds, the expiration of the compulsory ten-year waiting period is an important source of risk. As the overwhelming majority of voluntary funds started operating in 1994–95, the ten-year wealth accumulation period of the first entrants will soon expire. According to surveys of fund members, a not insignificant portion of members will likely opt to withdraw assets after the waiting period expires. As a result, a large amount of assets will probably flow out of voluntary funds. The likely consequences of this will be that (i) substantial amounts of equities and government securities will enter the market and (ii) the impact of this on the institutional systems is difficult to predict.

In most cases, the size of the fund has a considerable influence on the development of infrastructure. The quality of smaller funds' information technology and recording systems is generally poorer, as any develop-

Table IV-6 **Composition of pension funds' assets (Per cent)**

	Private pension funds			Voluntary pension funds		
	2000	2001	2002	2000	2001	2002
Cash, current accounts	1.1	1.1	0.7	1.6	1.5	1.5
Government papers	78.0	80.1	69.6	69.9	76.6	68.7
Time deposits	0.2	0.0	0.4	2.8	0.3	1.0
Shares	14.0	9.8	9.0	11.5	9.4	8.1
Corp. and municipal bonds	2.0	2.3	3.7	3.1	4.8	5.6
Foreign investments	0.7	2.5	1.0	1.4	2.4	2.8
Investment units	2.7	2.3	7.7	3.8	2.4	4.7
Mortgage bonds	1.1	1.9	7.9	1.1	1.9	7.2
Other	0.2	0.0	0.0	4.8	0.7	0.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

ment of these systems can only be financed from the working fund. Eventually, this reduces the value of contributions by members to their individual accounts. Modernisation of information systems, however, is inevitable over the long term, given that the majority of funds continue to face recording and identification problems caused by 'dormant' members (i.e. those who do not pay contribution or are registered with two or more funds) and by contributions of unknown destination.

Based on a review of the sub-sector's position, the changes in pension funds' activities in 2002 do not have a direct effect on financial system stability. The amendments to legal regulations which entered into force in 2003 were aimed at strengthening the position of the sub-sector. The consolidation process, reflecting considerations related to economies of scale, which characterised the year 2002, will likely continue in 2003, and indicates possible improvements in the sub-sector's efficiency.

IV. 3 Life insurers

GENERAL

In 2002, two new insurance companies received an operating licence to provide life insurance services. This meant the number of insurance firms operating in the market increased to 20. Nevertheless, the life insurance market continues to be dominated by a small number of firms. The three and the five largest insurance firms in terms of market share accounted for 71% and 87% of life insurance reserves, respectively, indicating no significant shifts in the market relative to the previous year's end *(see Table IV-7)*.

Measured on the basis of life insurance reserves, 90% of domestic insurance firms are in foreign investors' majority ownership which are participants of the European markets or are members of financial conglomerates operating an insurance firm.

At end-2002, life insurance reserves accounted for 5% of households' gross financial wealth. The number of insurance contracts fell by 2.2% in the year under review, due to the expiration of low-premium contracts. Following the slight drop in 2001, insurers' gross premium revenue rose by 16.3% (by 10.4% in real terms), to HUF 200.7 billion. Consistent with the previous years' trends, unit-linked and mixed[62] life insurance contracts played a dominant role in the increase in premium revenue.

Having fallen in the previous year, revenue from single-premium life insurance products resumed rising in 2002. Constituting a change relative to previous years, revenues from single-premium mixed life insurance products were significant in the year under review, in addition to single-premium unit-linked contracts. However, unit-linked contracts continued to account for 66% of revenue from single-premium contracts. These products actually resemble mutual funds shares. Utilising the current regulatory arbitrage,[63] insurers are able to increase their premium revenue from these products continuously and significantly.

In general terms, to the extent that the share of single-premium revenue within total premium revenues is higher, premium revenues are more volatile, future cash flows are more uncertain and the insurance activity is more risky. Although insurers' single-premium revenue increased significantly relative to 2001, its 21.1% share within total premium revenues is still considered as low compared with the majority of Western European countries.

Table IV-7 **Life insurance reserves (HUF millions)**

	2001		2002	
Life insurance reserves	**498 132**	**100.0%**	**605 495**	**100.0%**
of which unit-linked reserves	111 221	22.3%	140 536	23.2%
Reserves at domestic owned companies	46 192	9.3%	61 911	10.2%
Reserves at foreign owned companies	451 940	90.7%	543 584	89.8%
Reserves at the three largest companies	360 166	72.3%	427 442	70.6%
Reserves at the five largest companies	435 614	87.4%	525 359	86.8%

** At book value.*

[62] Mixed life insurance contracts contain both saving and risk elements.

[63] It is a competitive advantage for insurers that, in contrast with the investment limits currently in force relating to investment funds, there are no upper limits to investing the reserves of unit-linked insurance contracts. In addition, long-term savers seek unit-linked life insurance products, as they are entitle to personal income tax benefit on payments of life insurance premium, provided that the private individual does not execute his right of disposal within 10 years following conclusion of the contract.

Increases in payments on claims and services in 2002 were slower than the growth rate of premium revenue, as a result of which the claims ratio and the services ratio[64] fell 2.6 percentage points relative to the previous year (2002: 34.6%). In this the 17% decline in the number of repurchased contracts played a decisive role.

RISKS

Insurance firms surrendered 11.2% of life insurance premium revenues to reinsurers in 2002. This was only slightly less than the outcome for the previous year (12.0%). As the majority of reinsurance companies are acknowledged insurers operating in Western European markets, the Bank considers counterparty risks related to reinsurance to be insignificant.

Insurers are required to record reserves of unit-linked insurance contracts in a reserve fund. The general provisions of the Insurance Act do not apply to reserve funds. These do not represent direct investment risks for insurers, with the client bearing all risks, unlike in the case with traditional life insurance products, where it is the insurer who bears all risks. In the following, examining the components of the reserves of unit-linked insurance products is justified by the different parties bearing the risks *(see Table IV-8)*.

Reflecting insurers' risk averse investment policy, they held 87% of traditional premium reserves in bonds issued by general government. There was a slight drop in government securities and bonds as a proportion of the total. However, large amounts of funds flowed into assets representing claims vis-à-vis credit institutions. Insurers continue to place insignificant funds into share and mutual funds shares carrying the highest investment risks. Although shares and funds shares account for a significantly higher portion within reserves of unit-linked contracts, government securities nevertheless play a considerable role. There has been a shift within the portfolio from shares towards funds shares in the past 18 months. None of the insurance firms has yet received a licence to engage in mortgage lending.

On the whole, insurance firms pursuing life insurance activities currently undertake relatively low risks. However, the changing regulatory environment will likely reduce limits to investments significantly. This, in turn, may lead to an increase in insurers' exposure to investment and exchange rate risks.

Table IV-8 **Composition of life insurers' investments for standard and unit-linked life insurance schemes (Per cent)**

	Traditional			Unit-linked		
	2000	**2001**	**2002**	**2000**	**2001**	**2002**
Cash and current accounts	0.8	0.2	0.2	0.4	0.5	0.2
Government securities	89.0	89.1	87.3	68.1	73.3	72.9
Bank deposits and bank securities*	3.0	4.2	9.0	0.6	0.2	1.1
Shares	0.5	0.9	0.6	26.9	19.9	17.2
Bonds**	5.2	4.0	1.8	0.1	0.1	0.4
Funds shares	0.4	1.1	0.7	3.7	6.0	8.1
Other	1.2	0.4	0.3	0.2	0.0	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* *Time deposits + bonds issued by credit institutions + mortgage bonds.*

** *Local government, pension and health insurance authorities, bonds issued by businesses.*

[64] Payment on claims/premium revenue * 100.

IV. 4 Financial enterprises

GENERAL

The number of financial enterprises continued to rise, as seen in previous years–the number of financial enterprises with the Supervisory Authority's operating licence rose from 193 at end-2001 to 200 at end-2002. The sub-sector's[65] combined balance sheet total increased by 35%, from HUF 520 billion at the end of 2001 to HUF 701 billion at the end of the year under review. The robust increase in financial enterprises' assets was due primarily to the more than 60% upsurge in car purchase financing. Of the 149 firms examined, there were 34 in bank ownership.

Banks finance both groups, although to a different extent. Whereas banks provide 89% of liabilities of financial enterprises associated with a bank, they only provide 64% to non-bank owned entities. As a result of better growth opportunities ensured by bank ownership, there is a wide gap in growth registered by the two groups of financial enterprises as measured by average balance sheet total–the average 35% increase resulted from a 42% increase in that of bank-owned entities and from a much more modest, 15% increase in that of non-bank owned entities. Bank-owned financial enterprises account for 77% of the sub-sector's combined balance sheet total.

Robustly increasing car finance continues to be the driving force behind growth in financial enterprises' activities. This market is clearly dominated by financial enterprises (banks barely account for a 10% share); however, entities associated with a bank lead the market of car finance.

Leasing, lending and factoring are the most characteristic activities of financial enterprises. Only 5 of the 149 entities analysed do not pursue any of the activities noted above.[66] The rest of these enterprises engage in one or two or even all three activities. There has been a process of concentration in the leasing, lending and factoring markets in recent years. As a result, all three markets had become heavily concentrated by the end of 2002 *(see Table IV-9)*.

Based on the balance sheet totals and outstanding lease finance, the ten largest enterprises are all associated with banks. Of the ten largest entities in terms of lending activities, there is only one which is not owned by a bank. The situation is the reverse in the factoring business–there are only two non-bank owned participants in the league of the ten largest entities.

Increasingly active lending by parent banks to their own firms also contributed to the strong growth of bank-owned financial enterprises. Since 2001 Q4, banks have been providing finance to their own financial enterprises at an increasing rate, in order to boost very profitable and relatively safe lending (in 2002, outstanding borrowings of financial enterprises from parent banks rose by 72% in nominal terms).

RISKS

Lending risk is the most important source of risks facing financial enterprises. Practically speaking, they can develop an equally risky portfolio on the assets sides as

Table IV-9 **Concentration of the activities of financial enterprises in 2002**

	Total assets	Leasing	Credit	Factoring
Five largest	38%	64%	53%	64%
Ten largest	58%	83%	78%	82%

[65] The Bank does not treat firms established with the objective of implementing an economic policy objective and mainly owned by the state as members of the sub-sector. As a consequence, the Bank has only examined 149 of the 166 firms reporting data.

[66] The five financial enterprises are engaged in other activities. For example, they provide agency, forfaiting, consultancy and mortgage lending services.

banks can, but without the upper limits imposed by regulations on the evaluation and management or risk. However, the majority of large banks' subsidiaries operate as if they were specialised branch offices–financial enterprises qualify their assets in accordance with the same principles as those of the parent banks; and they develop products, classify loans and provision for losses in line with the parent banks' standards. In spite of the fact that currently there are no binding rules and there exist only recommendations issued by the Authority, banks increasingly recognise the need to manage risks at the group level.

The combined total of leasing claims and outstanding loans rose by 52% in nominal terms, from HUF 332 billion to HUF 505 billion in 2002. The degree of concentration by client is low–more than a half of financial enterprises' clients are from the household sector, with small and medium-sized enterprises accounting for a large share within corporate clients. As a result, their exposure to risks by client is low. Unlike in the case of their parent banks, the large exposure limit does not apply to financial enterprises' claims. In the MNB's experience, banks do not utilise the regulatory arbitrage opportunities arising from the lack of large exposure limit.

CAR PURCHASE FINANCE

At 90%, financial enterprises have a dominant share of the car finance market. The market leaders are all owned by banks, without exception. As car finance represents a robustly growing business within their activities,[67] and its share is outstandingly high, it is worthwhile to deal with this market separately.

In 2002, the percentage share of cars leased or financed on loan increased, in addition to new sales. The significant expansion of the market was associated with intensifying competition. Falling APRC indicate and the loosening of financing criteria indicate growing competition, in addition to the appearance of new products. Although it is beneficial for clients, sharp competition is associated with rising risks:

– the riskier used car finance segment has been growing robustly, in addition to new car purchase finance,

– the requirements applied in credit appraisal are becoming looser: leasing firms require less initial payment, which leads to a worsening coverage ratio,

– car finance, representing a dominant portion of the portfolio, leads to concentration of the given type of collateral,

– it is doubtful, whether falling APRC is sufficiently high to cover increasing risks, with rising dealer commissions,

– lending is dominant within new claims, instead of leasing providing higher safety, due to retaining title to a car.

Whereas in 2000 used car finance accounted for 20% of total car leasing, this ratio rose to 52% in 2001[68] (European average: 17%). In financing purchases of used cars, faster depreciation of cars carries higher risks. Uncertainties surrounding the origin of cars represent an additional risk.

Breaking all previous records, the number of new car sales rose by 16.2% in 2002,[69] while car finance increased significantly more strongly, by nearly three-quarters, in terms of outstanding claims. In 2002, sales of 60%–70% of new cars was coupled with some kind of financing facility. The fall in initial payment[70] required of buyers may also have contributed to the wide gap between the number of new cars and the growth rate of financing. The fall in initial payment mars the coverage ratio influencing lending risks, the level of which, however, is still seen as reasonable (the average coverage ratio is around 160% in car finance,[71] with that of the leasing firm registering the lowest coverage ratio being minimum 100%).

[67] Car finance accounts for more than 80% of financial enterprises' assets.
[68] Source: http://www.leaseurope.org/pages/Download/SL2000M.pdf; http://www.leaseurope.org/pages/Download/SL2001.pdf
[69] Source: Association of Hungarian Car Importers.
[70] In 2002, firms required initial payment of around 20% as a precondition for granting a loan.
[71] Source: Hungarian Leasing Federation; 2002 Q3 data.

The average APRC of banks' forint-based car loans rose from 20% in January to 17% in December 2002.[72] However, the decline in leasing firms' profit margins is mainly attributable to the uncontrolled rise in dealers' commissions in 2002. Compared with the earlier 3%–4%, commissions above 8% were not rare in hope of gaining increasing market share. The 'commission war' shows that leasing firms are not primarily competing for clients through low APRC, but to win official executive distributors. Jumping dealer's commissions, associated with falling APRC may shrink firms' gross profit margins to an extent that it is not in line with risks taken. Therefore, it would be useful to define dealer's commissions at an adequate level, as part of risk-based pricing. This would mean an end of sharp competition, if letter of credit-based products, aimed at eliminating commission, proliferated in the market. Letters of credit are known in member states of the EU. These may separate car purchase from borrowing and, consequently, they may contribute to diminishing the distortions of the market caused by any collusion between the dealer and the leasing firm.

No breakthrough was reached in 2002 with the introduction of the letter of credit–in contrast with the original concept, buyers continue to pay commission on cars purchased with letters of credit, due, perhaps, to traders' strong resistance.[73]

In addition to the adequate quantity and quality of collateral as well as the necessity of risk-based pricing, it is also important to emphasise that an economic recession is the most important source of risk for leasing firms, which may render some clients insolvent. The rising indebtedness of individuals in recent years increases the possibility of insolvency. Leasing firms are even more sensitive to buyer insolvency than mortgage lenders, given that, if the buyer not only purchases his car on loan, but his home as well, the is higher likelihood of abandoning repayment of his car loan first.

Unlike the trends of 2001, portfolio quality improved, accompanied by an expansion of lending by financial enterprises associated with banks in 2002. Overdue claims fell from 4% to 3.5% within outstanding loans, those within leasing claims falling from 9% to 4%.

Losses in value recorded by bank-owned financial enterprises increased in line with the expansion of the portfolio. Recording losses in value by financial enterprises is considered somewhat more prudential than by banks. The regulatory environment has not changed since 2001, so financial enterprises are still not motivated to record higher losses.

Losses in value actually recorded by financial enterprises in 2002 were much higher than they are official permitted to consider in order to reduce their tax base (6 times higher); however, losses in value recorded by non-bank owned financial enterprises were 60% less than the amount they would have to record if the regulations on credit institutions applied to them. Nevertheless, losses in value recorded by bank-owned entities would comply with regulations applying to credit institutions. In 2001, the theoretical lag which today only characterises non-bank owned entities was valid for bank-owned enterprises as well.

Non-bank owned financial enterprises are much more active in the factoring market: their outstanding factoring claims are nearly 4 times higher than those of bank-owned entities. Claims purchased on due date account for 45% of the sub-sector's total claims. Factoring firms saw 14% of their claims become overdue purchased before due date, which is a combination of 2% overdue claims of bank-owned and 17% of non-bank owned claims. Explanation for the better portfolio of bank-owned entities is the fact that their propensity to take risks is lower, while lower risks are associated with lower profitability.

There are major differences between the assets and liabilities sides of financial enterprises in terms of currency denomination–31% of assets and 8% of liabilities are denominated in foreign currency. A substantial portion of foreign currency liabilities, most of which are from credit institutions, is financing foreign currency-based leasing and loan claims. According to the estimate of the leading leasing firms, foreign currency-based financing, mainly in the euro and the Swiss franc, accounts for 70%–90% of total new lending. Under these facilities, loans are extended and repaid in forints, but the amounts of claims are fixed in foreign currency, with the amounts to be paid being converted into forints at the time the invoice is made out.

[72] The APRC of financial enterprises' forint-based loans may have fallen by a similar measure. However, leasing firms are not obliged to report relevant data.
[73] Participants in the commission war will likely be forced cease fire by the new Code of Best Practice prepared by the Hungarian Leasing Federation, instead of the letter of credit.

As a result, enterprises have an open position in their balance sheets. This, however, is not actually a source of exchange rate risk, as firms pass it on to customers. Nevertheless, firms are faced with counterparty risks.

On the whole, lending by banks to their financial enterprises rose very robustly in 2002. Justifying financial enterprises' increasing need for funding was the pick-up in car finance, while banks were no longer restrained by the large exposure limit in financing their group members. The centre of the market continued to shift towards passenger cars, where intensifying competition led to a sharp commission war. More relaxed prudential regulations relative to banks were instrumental in financial enterprises' activities picking up very strongly in the year under review.

V. Operations of and risks in interbank payment and settlement systems

REGULATORY FRAMEWORK

Conducting monetary policy, ensuring the smooth flow of payments and maintaining financial stability require that the central bank should have adequate control over the operation of securities settlement systems being in close relationship with the national payment system.

The amendment to the Capital Market Act passed in 2002 extends the MNB's oversight responsibilities to the operation of the domestic securities settlement systems as well. Since 1 January 2003, the MNB's prior consent is required that the Business Rules and General Terms and Conditions of securities clearing and settlement houses should come into force. In addition, the HFSA involves the MNB in its on-site inspections of such institutions in respect of their operational reliability and risk management. The HFSA is responsible first of all for the prudential supervision of securities clearing and settlement houses, while the MNB lays special emphasis on monitoring and overseeing the smooth and efficient operation of the systems.

INTERBANK PAYMENT TURNOVER

Aggregate turnover[74] of the two main domestic payment systems, the Real Time Gross Settlement System (VIBER), operated by the MNB, and the Interbank Clearing System (ICS), operated by GIRO Elszámolásforgalmi Rt., increased by 65% in 2002, exceeding HUF 300 trillion. This figure is approximately 18.8 times the value of Hungary's GDP (this indicator was 10 in 2000 and 5 in 1995), and approaches the value of similar indicators in Western European countries.[75] VIBER's share of the total turnover rose from two-thirds in 2000 to more than 85% in 2002.

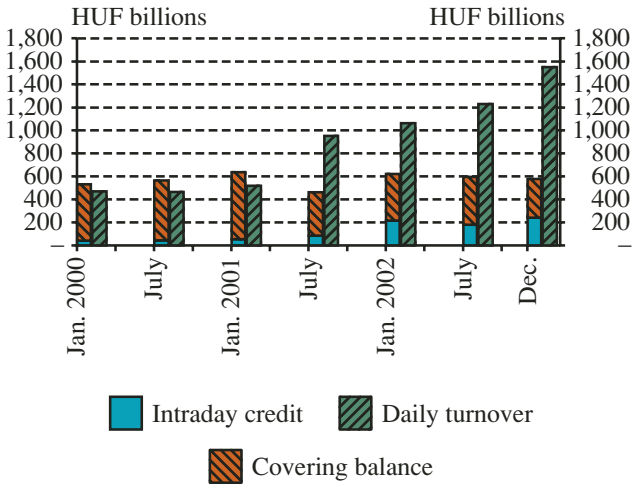
The Central Clearing House and Depository (KELER Rt.) provides clearing and settlement services for equities, government bonds and discount bills as well as futures transactions traded on the Budapest Stock Exchange, futures transactions of the Budapest Commodity Exchange and transactions on the OTC government bond market. The aggregate value of transactions of the three markets amounted to HUF 28.9 trillion in 2002, up 16.8% on the previous year.

CHANGES IN THE LIQUIDITY POSITION OF THE PAYMENT AND SETTLEMENT SYSTEMS

The source of liquidity in payment systems are deposit balances on settlements account and intraday credit limit granted by MNB against collateral. The ratio of daily liquidity compared to payment turnover decreased considerably over the last three years. It has been primarily the value of current account deposits, influenced by the required reserve ratio, which has fallen, while the value of limits has risen. However, the aggregate increase in the two components of liquidity has fallen significantly behind the expansion of payment turnover since mid-2001 *(see Chart V-1)*.

The average of banks' daily initial aggregate limit was HUF 200.7 billion in 2002, in contrast with HUF 85.5

Chart V-1 **Banks' daily average liquidity and payment turnover**

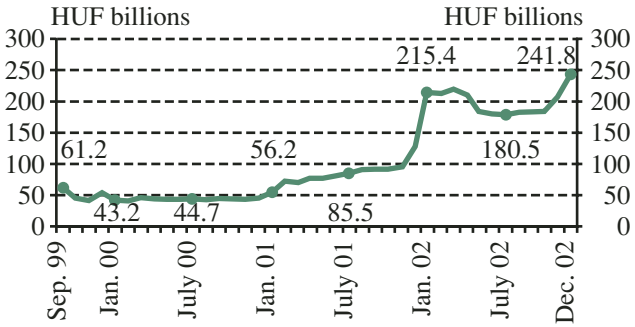


[74] VIBER data include forint turnover of the MNB's account management system. This, however, is insignificant in terms of both volume and value relative to the two payment systems.

[75] Comparable ratios in 2000 were 32 in Germany, 86 in Belgium, 37 in Ireland, 21 in Italy, 185 in Luxembourg, 46 in the Netherlands, 22 in Austria, 36 in Finland, 51 in Sweden and 74 in the United Kingdom.

billion on a daily basis in 2001. The amount of aggregate limit fluctuated widely during the year, before rising in the final months of the year. The extent of the changes during the year was stronger than in the previous few years *(see Chart V-2)*.

Chart V-2 Banks' intra-day credit lines



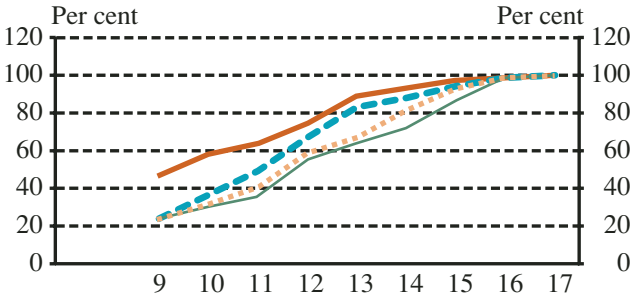
An increased portion of intraday transactions was settled in the late hours of the business day compared to the previous year, which reflects a significant change in the system's liquidity. Data of two business days in December 2002 shows that 67.5% and 64.3% of the total volume and value of transactions respectively were settled before 1 p.m. compared with the ratios of 82.9% and 88.2% in December 2001 *(see Chart V-3)*.

The frequency of intraday queuing and the value of transactions queued in VIBER[76] have both been rising recently. In 2002, the total value of transactions queued (first items in queues) reached HUF 32.3 trillion in 2002, 2.7 times the amount recorded in 2001 *(see Chart V-4)*. Nevertheless, all presented transactions were settled in VIBER by the end of the day; the system did not delete items in queue due to lack of funds.

In 2002, participants did not provide funds enough for overnight settlement in the ICS on 21 settlement days out of the total 251, representing an increase of 31.2 % in frequency in one year As a result, a total amount of HUF 14.6 billion was settled the next morning. Four of the queuing banks do not take advantage of the intraday credit facility (limit) at all.

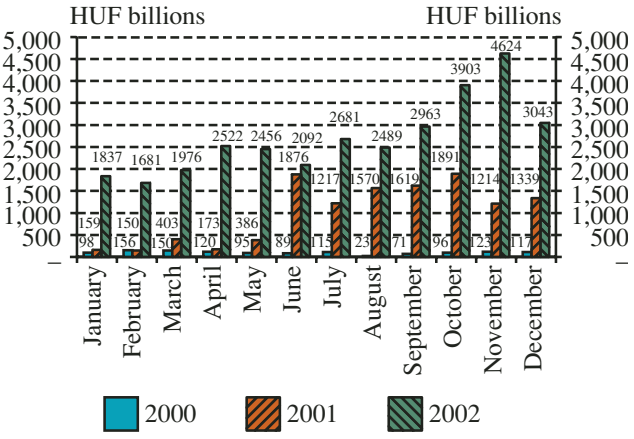
If a bank does not repay the intraday credit by the end of the day, the MNB automatically grants an overnight loan against collateral of securities. Annual value of the

Chart V-3 Distribution of payment instructions in December 2001 and December 2002



	9	10	11	12	13	14	15	16	17
Volume 2002	23.6	31.8	41.3	58.8	67.5	80.9	92.3	99.0	100.0
Value 2002	25.0	30.8	36.0	55.9	64.3	72.7	87.2	98.7	100.0
Volume 2001	24.4	37.2	49.1	67.0	82.9	88.7	94.3	98.7	100.0
Value 2001	47.0	57.9	63.3	75.0	88.2	92.4	97.1	98.4	100.0

Chart V-4 Monthly value queued in VIBER in 2000–2002



end-of-day lending amounted to HUF 597.8 billion in 2002, up from HUF 202.2 billion in 2001, increasing by a factor of 2.95 in the span of one year.

Owing to the increasing activity of foreign banks on the forint (HUF) money market after lifting up of foreign exchange restrictions and the lowering of compulsory

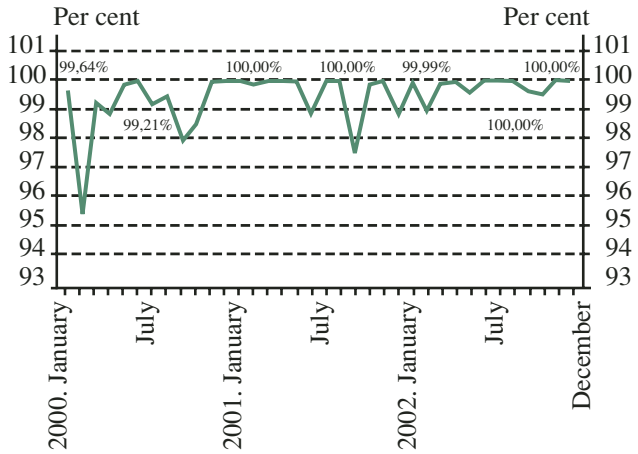
[76] Aggregate data include items about which the system sent 'queued due to lack of funds' messages. (The system notifies the account holding VIBER member via a message, if it has been queued due to insufficient coverage, more specifically, if the instruction on top of the queue has not moved for 90 seconds. The participant next receives such a message, if the item on the top of the queue changed – for example, it has been settled, or it has been moved down on the prioritisation order, and there are queuing items which have not been executed for 90 seconds. In other words, further items may be queued, but no information is available on them.) The value of actual queuing may have been much higher than recorded.

reserve rate together resulted in increasing demand for intraday credit limit by banks. Consequently, they have to pay more attention to the management of their intraday liquidity. As changes took place gradually and due to their extent there was enough time for adjustments, thus the operation of payment and settlement systems did not jeopardise financial stability.

OPERATIONAL RELIABILITY

VIBER's availability (i.e. the simultaneous accessibility of the central account management system and the SWIFT network) has been improving – the annual average value of the ratio was 99.03% in 2000, 99.59% in 2001 and 99.8% in 2002 *(see Chart V-5)*. In 2002, the length of a failure was 18–66 minutes per occasion. A ratio above 99% implies that there was less than one hour downtime monthly.

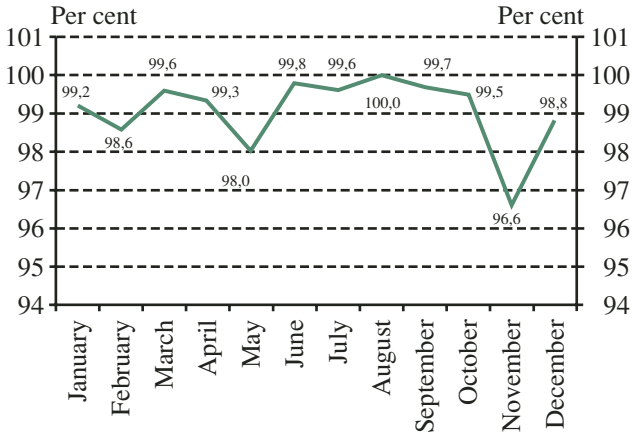
Chart V-5 Availability of VIBER



Reliability ratio is measured differently for the ICS. Typically, problems can arise if a participant fails to meet the 2 a.m. deadline for forwarding the batches of transactions to the clearing house. In such cases, any delay in processing may, in principle, cause some delay in the opening of VIBER in due time. In 2001, four banks altogether sent their batches of transactions after 2 a.m. in 21 cases, while in 2002, on a total of 17 occasions, five banks were late in sending their transactions (the length of delay varied from 5 minutes to 2 hours and 40 minutes). Overnight processing of transactions was always accomplished in due time – VIBER's opening never suffered a delay due to late submission of settlement positions.

KELER's opening hours are fairly long – participants may send transactions from 7 a.m. to 10 p.m. for same-day settlement. The annual average availability index increased from 98.1% in 2001 to 99.1% in 2002, evidencing a significant improvement *(see Chart V-6)*.

Chart V-6 Availability of KELER's services in 2002



PROJECTS COMPLETED OR UNDERWAY

The remote back-up system which was installed in the middle of the year serves to improve VIBER's operational reliability. Although the fault tolerance configuration of the MNB's system in respect of handling breakdowns has so far ensured business continuity in case of a server failure, the remote back-up facility allows business continuity to be maintained even in the event of an unexpected crisis situation when activities cease totally on the main operational site.

Monetary conditions are expected to change over the medium term. Therefore, the focus of the Bank's operations will likely shift from sterilisation instruments to liquidity providing operations. In order to prepare for this change, the MNB and KELER Rt. have launched a joint project to modify the Bank's collateral management system, including the implementation of pooled collateral management and a daily valuation system. The new service will likely be introduced in the first half of 2003.

In 2002, KELER Rt. made two important steps for the development of the domestic securities settlement system, in accordance with the recommendations of international institutions and the practice of developed capital markets. These changes were intended to reduce the risks for the participants of the system and to increase market liquidity, thus strengthening financial stability.

- In accordance with the standards set by international institutions and the practice of developed capital markets, as well as taking into consideration the needs of domestic market participants, KELER reduced the settlement cycle of the Stock Exchange spot market from T+5 days to T+3 days from 18 November 2002.

- In May 2002, KELER extended its central counterparty (CCP) service, provided earlier only in the deriva-

tives market, to include spot securities market transactions. KELER interposes itself in transactions by becoming the seller to every buyer and the buyer to every seller, and it guarantees the settlement, reducing the risk of non-performance for both parties. KELER developed a multi-level risk management system in order to ensure the smooth operation of the securities settlement system as well as to lower liquidity and market risks.

The introduction of the new, tiered or multi-level guarantee system has allowed for more accurate measurement of risks, which eventually led to a significant reduction in collateral requirements (owing to more accurate risk measurement and the shorter settlement cycle). In the spot market, the amount of individual collateral fell by roughly 40% and the value of the collective guarantee fund (TEA) by some 35%, which, in turn, significantly boosted market liquidity.

One of the most important developments completed by GIRO Elszámolásforgalmi Rt. in 2002 was to eliminate any disturbances in the operation of the payment system due to the late submission of batched transactions by clearing participants. Giro Rt. continues to accept batches from 2 a.m. to 7 a.m. These are settled during the morning hours on the day of settlement. The new clearing procedure system was introduced in January 2003.

INSPECTION OF THE SETTLEMENT SYSTEMS AND MEASURES TAKEN AFTER THE INSPECTIONS

In 2002, the MNB thoroughly inspected the operations of GIRO Elszámolásforgalmi Rt. and KELER Rt., with special regard to the risk management procedures as well as the operational reliability of the systems operated by them.

The inspections did not reveal any significant problems that endangered financial stability or required immediate action by the central bank in respect of the operational reliability and the risk management procedures of the systems. On the basis of the statements of the inspection, the clearing houses further improved their otherwise high-quality services in 2002.

GIRO Rt.

GIRO Rt., operating the Interbank Clearing System, has adequate capacity ensuring full compliance with the operating hours undertaken in its Business Rules. Business continuity is ensured by two separate clearing centres operating continuously and independently of each other on two remote sites, in which the computers themselves are duplicated, thus the occurrence of a total system breakdown (which practically means the simultaneous failure of both centres), which could jeopardise financial stability, is reduced to a minimum.

As a consequence of the inspection an action plan to be implemented by the end of 2003 was elaborated in order to comply with the requirements of the central bank. Parts of the plan (performing an overall risk assessment, updating and complementing the business continuity plan, elaborating the new methods of handling software changes) have been implemented in accordance with the relevant schedule.

KELER Rt.

According to the statements of the inspection, the multi-level guarantee system of KELER Rt. provides for adequate level of risk management concerning past and future price changes, non-performance of participants or other reasons (e.g. excessive market share, low equity compared to open position, etc.) in respect of settlement of spot securities transactions concluded on the BSE and of derivatives transactions concluded on both the BSE and the BCE.

KELER Rt. operates a real-time, automatic margining system that is based on real time account and position management on real-time database, which guarantees the calculation of the actual value collateral required. Collateral is provided in marketable securities, which ensures that in case of need, they are at the immediate disposal of the clearing house.

The integrated securities settlement system operated by KELER Rt. has adequate capacity and redundantly built computer units. Its operations are therefore reliable. No system breakdown which would have jeopardised the continuous operation of the securities settlement system, and financial stability in particular, or the successful implementation of the MNB's monetary policy occurred in 2002.

Pursuant to the statements of the inspection, in 2002 KELER Rt. began to prepare a business continuity plan recommended in order to reduce further operational risks as well as to elaborate the implementation concept of a remote back-up system.

VI. Current topics related to stability

VI. 1 COPING WITH THE SPECULATIVE ATTACK AGAINST THE FORINT'S BAND

ADDRESSING SPECULATION ON THE APPRECIATION OF THE FORINT

Background

The Irish referendum on 19 October 2002 brought about a considerable change in the forint's exchange rate and reassured market participants, including foreign investors, who had had worries about the date of Hungary's EU accession. Following the referendum, country risk as perceived by foreign convergence-investors decreased significantly and further declined after the final date for Hungary's EU accession was announced. Compared to the risks assumed, yields looked lucrative to foreign investors. Not surprisingly, capital started to pour into Hungary after 19 October 2002.

The bulk of the capital inflow occurred through the purchase of long-maturity government securities by foreign investors: the size of the government securities portfolio held by foreign nationals grew from HUF 1,462 billion to HUF 1,793 billion in two months, which translated into an inflow of approximately EUR 1.4 billion. The average maturity of the government securities purchased by foreign investors was 4.3 years, which unequivocally substantiates the fact that the capital which flowed in the period in question was not short-term, and not speculative in nature.

Concurrently with FX pouring into the government securities market, the forint's pre-Irish referendum rate of exchange of EUR/HUF 245 appreciated to EUR/HUF 237 within a month.

After the Irish referendum, major investment banks only anticipated a slow appreciation of the forint, forecasting that the exchange rate would stay within the intervention band until end-2003. In early December, however, some investment banks modified their respective exchange rate projections for year-end 2003 to EUR/HUF 221–225, i.e. an exchange rate outside the band. As a result, market participants' expectations of the medium-term sustainability of the exchange rate band diminished. Analysts believed that the Bank's commitment to the process of disinflation and the (modified) inflation targets to be met would necessitate further appreciation and that central parity might well be adjusted prior to Hungary's entry into the ERM II regime, which would, in their opinion, translate to a stronger exchange rate.

Despite the weakening of the credibility of the exchange rate band, most investment banks thought that any shift in the band was unlikely in the short run. Instead, they believed that the MNB would defend the band with deep interest rate cuts or even FX market intervention if needs be. The Bank's interest rate cut in November reinforced analysts' expectations that the Bank was going to defend the exchange rate band by lowering its key interest rate.

Although derivative positions (mainly options) speculating against the forint's band did appear in mid-November, unlike government securities purchases, they did not exert appreciation pressure. Market information revealed that they mostly pertained to a 6–12-month horizon, giving no hint whatsoever of possible short-term speculation on the appreciation of the forint.

After the Irish referendum, both the Bank and the Government jointly expressed their commitment to maintaining the exchange rate band on several occasions. Statements from the President of the Bank, the Minister of Finance and the Prime Minister all contributed to a slower exchange rate appreciation.

After the MNB's 50-basis-point interest rate cut on 16 December, capital inflow slowed down. The size of the government securities portfolio held by foreign investors halted at around HUF 1,800 billion before 15 January and grew no further. The forint's exchange rate stabilised in the immediate vicinity of the upper limit (EUR/HUF 234.69) of the exchange rate band. In early January, there were no signs whatsoever suggesting an early shift in the band. On the contrary, the price of derivatives hinted at an even later date.

The MNB decided not to lower its key policy rate any further, as in order to be able to meet its modified inflation target for 2003 and the one set for 2004, an exchange rate fluctuating near the upper limit of the band was needed. Although the MNB did sense that the credibility of the exchange rate band could be ques-

tioned over a 1-2-year horizon owing to expectations of Hungary's ERM II entry, market processes gave no indication whatsoever of any speculation in appreciation in the short run. What could be anticipated was that, if convergence investments in the government securities market kept up at the same pace, intervention at the limits of the band might be necessary, but without incurring substantial costs. Therefore, the MNB decided to make a deeper interest rate cut only when it had to intervene at the limits of the band. This strategy was meant to send market participants the message that the Bank would prefer an exchange rate close to the limits of the band, but it intended to avoid any intervention. However, on 15 and 16 January 2003, it had to intervene on a scale that could not have been anticipated.

THE SPECULATION OF JANUARY 2003 AGAINST THE FORINT'S BAND

Causes of the speculation

Several factors are likely to have combined to trigger speculation on the appreciation of the forint.

1. In market actors' estimation the inflation target for 2003 could be met only if the forint's exchange rate exceeded the upper limit and the trading band was abandoned. As disinflation policy had been credible, they anticipated a shift in the band in the interest of meeting the inflation targets.

2. In January the majority of market participants felt that in order for the euro to be introduced in 2007, the MNB would have to set a higher exchange rate than the current one upon Hungary's entry into ERM II, which meant the appreciation of the central parity in 2 years at the latest.

3. A large number of investment banks counted on a consistent and predictable trend in exchange rate appreciation in the Central and East European region in the period running up to the introduction of the euro.

4. The exchange rate itself, which was near the limit of the band, is also likely to have spurred on market actors to force a shift in the band.

Owing to the above considerations, some market participants could easily believe that a shift in the band was only a matter of short time. The fact that investors and investment funds that had never had any investment in Hungary before purchased forint on 15 and 16 January also corroborates this. There was, however, some information, broadly available to the market, which escaped the speculators' attention. Based on such information, it can be stated that *the speculation against the forint's band was unjustified and irrational.*

1. Pursuant to the Act on the Magyar Nemzeti Bank, the MNB and the Government shall jointly decide on any shift in the band. The Government voiced its opinion on several occasions that it deemed the appreciation of the forint as excessive. No one familiar with the provisions of the Act on the Magyar Nemzeti Bank could have realistically thought that a shift in the band would occur.

2. Hungary is a small open economy, where the rate of exchange plays a more significant role in disinflation than interest rates do. This means that the MNB can lower its key interest rate even if fiscal and wage policies representing upside risk to inflation do not provide for the possibility of loosening monetary conditions provided that such a move does not lead to the permanent depreciation of the forint's exchange rate.

3. The amount of the capital that poured in was immense relative to the size of the Hungarian FX market. Therefore, even if the band had been shifted and the forint had appreciated, forint sales by speculators aimed at realising profit would have weakened the exchange rate to such an extent that most of them would have been unable to close their speculative positions in Hungary profitably.

4. Market participants also underestimated the MNB's intervention capacity. The interest rate cuts lowered sterilisation costs significantly. Furthermore, owing to the magnitude of foreign debt service, it will be relatively easy to reduce reserves in the future.

THE SPECULATIVE ATTACK OF 15–16 JANUARY 2003

On 15 January the exchange rate of the forint reached the edge of its trading band. The MNB, under its commitment to the band, had to sell a total of HUF 213 billion (for EUR 908 million) at EUR/HUF 234.69 to 14 of its resident partner commercial banks. It was not on their own account that these banks purchased forint from the MNB. Buy orders for large amounts of forint on the day in question had been placed by 8 major foreign banks, many of which have subsidiaries in Hungary. Thus the speculative attack was mounted by these foreign banks, or rather the clients they represent.

Following the intervention on the first day of the attack, at an extraordinary meeting in the afternoon, the Monetary Council of the Magyar Nemzeti Bank decided to lower its key interest rate by 100 basis points effective from 16 January.

Market participants are likely to have interpreted the MNB's move as the sign of an imminent shift in the band, rather than the Bank's commitment to defend the band in every way possible. Some even voiced their opinion that a shift in the band was as imminent as the

following morning, which is evidenced by the fact that after the MNB's trading hours (3 p.m.), with a turnover completely unusual at this time of the day, the market rate of the forint abandoned the band, and in the evening transactions were even concluded at rates lower than HUF 233.

On the following day, on 16 January, immediately after the FX market opened, foreign banks purchased a huge amount of forint from their Hungarian counterparties. The Hungarian banks bought the amount necessary for the transactions from the MNB again. The forint purchase was especially intense during the first half-hour after the opening of the market. At a press conference on Thursday morning, the MNB's President flatly refuted news reports of both shift in and abandonment of the band and said that in order to defend the exchange rate regime, the Bank was willing to further slash interest rates. After the press conference forint purchases slowed down significantly.

On the second day of the speculative attack the MNB had to intervene at the upper limit of the band in an amount of HUF 1,020 billion (EUR 4.371 billion). Aggregate data suggest that Hungarian market actors did not create any forint demand on this day either. They simply mediated their foreign partner banks' forint purchases to the MNB. Although the number of such partner banks had risen markedly relative to the 15th, major actors were the same, i.e. the ones that were already active on the 15th, mostly the London subsidiaries of large international investment banks. Intervention at the upper limit of the band during the two days totalled EUR 5.3 billion, which is equal to 7% of GDP in 2003.

RAPID CENTRAL BANK RESPONSE

On 16 January, the Monetary Council took several steps to defend the exchange rate band. It lowered its key interest rate by another 100 basis points, imposed quantity limits on the two-week deposit facility and widened the O/N interest rate corridor from +/–1% to +/–3%. The rapid response of the Bank, the interest rate cuts and the immediate announcement of restrictions on the quantity (HUF 100 billion) of the two-week deposit facility sent a clear message to the speculators that exchange rate gains on forint purchases were far from being guaranteed. The speculators would only be able to place the bulk of their forint liquidity in deposits at an interest rate lower than the 3.5% rate on O/N deposits.

The Bank's measures resulted in a 5 percentage point decrease in actual yield at the shortest end (the most sensitive end in terms of speculation money) of the yield curve in two days. Such measures combined with the communication strategy of the Bank committed to maintaining the exchange regime were effective. Some speculators started to sell forint (i.e. close their positions), and further depreciation of the forint urged others to follow suit. By the end of the day speculation had come to a halt, with the forint's exchange rate 5% weaker.

But for the range of measures taken on 16 January, cutting the key policy rate alone would not have resulted in so many advantages. As the engine of the speculation had been expectations of the abandonment of the exchange rate regime, the adequate extent of interest rate cuts was impossible to calculate. It was obvious that, for a transitory period, deep interest rate cuts would be necessary to put an end to speculation and force the bulk of the hot capital of over EUR 5 billion that had poured into the country within the span of 2 days to exit the market. Therefore, the MNB decided to separate the permanent part of the interest rate cuts from the temporary one–it would lower its base interest rate by 1%, however, the returns on speculative capital would decline by over 3% relative to the base rate.

The 6.5% base interest rate continued to reflect the Bank's preference for the desirable interest rate level after the speculative attack, and was clearly different from the one on the O/N deposit facility effective in the short run. As a result, no extreme fluctuation of longer maturity yields or interests on deposits and loans materialised, for the 3.5% O/N interest rate did not apply to such yields and interests.

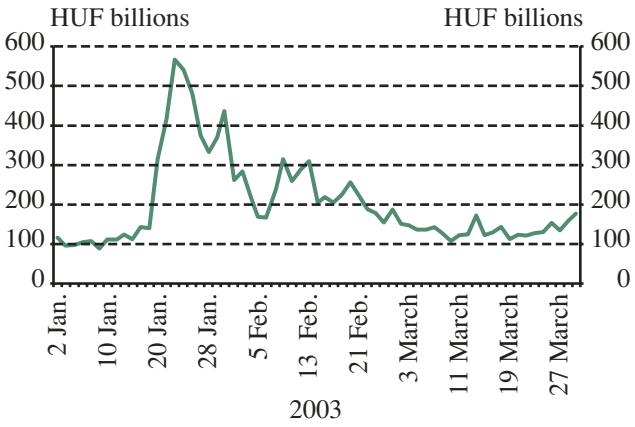
THE ARSENAL OF THE SPECULATIVE ATTACK

The speculative attack of January 2003 against the forint's band was different from earlier speculation aimed at forcing a shift in the band under the former narrow band exchange rate regime, as the volume of the sums transacted and the flow rate of the capital involved in the former were far greater and faster, respectively. As such amounts were impossible to invest exclusively in the Hungarian government securities market, speculators had to place the forint they had purchased on the FX market in either short-maturity forint deposits or swaps.

The size of forint deposits held by non-residents grew by approximately HUF 430 billion *(see Chart VI-1)* on the settlement days related to the two days of the speculative attack. This was less than half of the amount that they had purchased in spot transactions during the two days of the attack.

As limits placed by foreign banks on their counterparties did not allow for unsecured borrowing (placement of deposits), speculation materialised mainly through short-maturity swaps. The maturity of half of the swap deals concluded on 16 January was less than 2 weeks. In addition, owing to the special characteristics of the

Chart VI-1 **Forint deposits of non-residents with Hungarian commercial banks**



market, investors can easily transform their originally long-maturity positions into short-maturity ones by simply closing them. In such transactions non-resident speculators or major international banks intermediating the transactions in question for such speculators bought forints from Hungarian counterparties in spot transactions, which were, as a rule, complemented with short-maturity swap deals. Thus, the combined effect of such multi-transactions was that speculators created synthetic forint deposits, hoping that they would be able to close their positions profitably at a higher forint exchange rate after the anticipated shift in the band.

Resident banks did not intend to bear any exchange rate risk (and there are statutory regulations governing the assumption of such risk anyway). Accordingly, they sold euro to the MNB in order to hedge their forward positions vis-à-vis foreign banks, which in turn means that Hungarian commercial banks, in effect, intermediated speculators' forint demand to the MNB. Thus, the Bank's intervention at the upper limit of the band, i.e. its euro purchases, was not vis-à-vis speculators, but commercial banks.

CONSOLIDATION

The Bank's strategy, aimed at consolidating the money and foreign exchange markets, had two basic objectives – meeting the inflation targets and maintaining financial stability. The two objectives were not in conflict, as they required identical actions: stabilising exchange rate expectations, on the one hand, and helping the speculative capital to leave as quickly as possible, on the other.

Because of its primary objectives, the MNB could not allow for a massive and rapid weakening of the forint's exchange rate so as to force speculators to withdraw their funds. The reason for this was that a dramatic weakening of the exchange rate, causing massive losses to speculators, would have jeopardise meeting the inflation target and maintaining financial system stability. For this reason, the Bank encouraged the outflow of speculative capital by driving it home to speculators that it would be unreasonable for them to count on exchange rate strengthening in the future; at the same time, however, the MNB offered an opportunity for them to withdraw at an exchange rate causing modest losses to them.

The MNB adopted an action plan consisting of the following three distinct phases in order to consolidate the financial market:

1. Encouraging the rapid outflow of speculative capital with massive sales of euros;

2. Restoring the Bank's monetary policy instruments; and

3. Follow-up treatment: encouraging the outflow of speculative funds still in the market by conducting silent intervention.

The Bank did not conduct intervention in the foreign exchange market in the period between the widening of the intervention band in May 2001 and January 2003.[77] Under the inflation-targeting regime, the Bank controls the exchange rate primarily by raising or lowering official interest rates. International experience shows that under normal market circumstances the exchange rate can be more effectively influenced by interest rate policy than by intervention. However, following the intervention near the upper limit of the intervention band, the size of very short-term pro-forint position in the market was so enormous that it could only have been closed if the forint had weakened significantly. Without the Bank's intervention, permanent speculative positions in the market might well have induced increase in the volatility of the forint's exchange rate, thereby forcing the Bank to change interest rates frequently and substantially. For these reasons, the MNB decided to temporarily use intra-band intervention until speculative capital exited the market.

The MNB's main concern was to stabilise the interest rate level. To this end, intervening, in effect, continuously, it was willing to offer an opportunity for speculators to withdraw which in turn allowed the continuous and controlled outflow of hot money, without risking substantial increase in long-term yields and exchange rate volatility.

[77] In the second half of 2001, the MNB made daily euro purchases in equal amounts on the FX market on a pre-scheduled basis. Owing to their very nature, however, such purchases were not and could not have been, for that matter, aimed at influencing the rate of exchange in the short run.

As the persistence of low interest rates would have influenced financial stability negatively and would have triggered inflationary pressure as well, the MNB attempted to restore its policy instruments and raising the extremely low level of interest rates as quickly as possible. Consistent with this intention, the Bank, by selling large amounts of euros, contributed to more than two-thirds of foreign speculative capital leaving the market by end-February. With the restoration of the Bank's policy instruments, the first phase of consolidation ended on 24 February. Silent intervention marked the third, last phase. This phase, associated with an exchange rate and market yields fairly stable despite the Iraq war, lasted until 23 May. The MNB stopped its intra-band sales of euros, as the overwhelming majority of the capital that had flowed in during the speculation in appreciation, had been withdrawn by then. Although the Bank had withdrawn from the FX market, the remaining speculative positions did not endanger exchange rate and yield stability.

EXIT OF THE SPECULATIVE CAPITAL

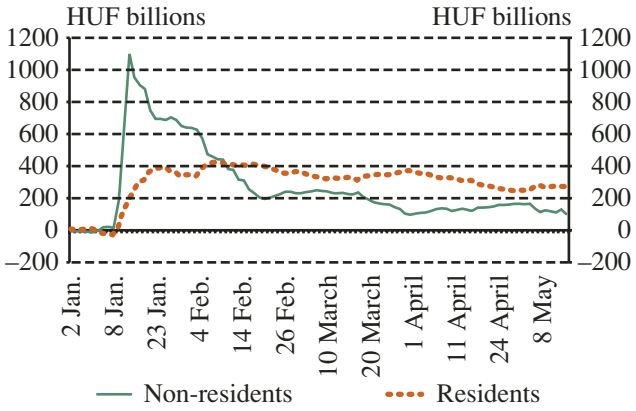
The foreign participants involved in the speculation already began to close their respective forint positions in the afternoon, on 16 January. Simultaneously, Hungarian banks and resident non-bank actors opened positions of over HUF 80 billion in the forint. Non-residents went on closing their respective positions (i.e. selling forints) on the following day and the day after. The outflow of the foreign speculative capital was an ongoing process until 24 February 2003, when the Bank restored its instrumental framework. As the bulk of the speculative capital had already flowed out, the rate of its outflow slowed down significantly after the Bank had reinstated its instrumental framework.

The size of non-residents' closing their respective positions exceeded the volume of the Bank's intra-band euro sales. The reason for that was that resident actors too made the most of the exchange rate weakened by the continuous exit of non-residents and opened (mainly forward) positions in the forint.

In the ten days during the exchange rate depreciation following the attack against the forint's band, resident actors opened positions of HUF 400 billion in the forint *(see Chart VI-2)*. The information available to the Bank does not give any direct indication as to how much of this amount went into hedging and how much was spent on speculative purchases.

Information from banks suggests that the number of hedge transactions concluded by exporters and companies which, for other fundamental reasons, held short forint positions, was substantial in the initial phase of the exchange rate depreciation. Hedgers sold FX from their later export revenues at an exchange rate that already had been set. The outcome was that the majority of such actors were unlikely to close their positions before actual revenues had been produced.

Chart VI-2 **Positions taken by residents and non-residents in the forint (cumulated from 1 January 2003)**



Note: The 16 January level differs from the size of all speculative positions taken by non-residents (Table VI-1), as the closing of the speculative positions commenced in the afternoon.

The MNB has managed to sell more than 70 per cent (i.e. EUR 3.8 billion) of the EUR 5.3 billion bought in mid-January until 23 May. There is a one-billion resident and approximately 200-million non-resident position (at a rate of EUR/HUF 245.9) against the remaining EUR 1.2 billion position. The remaining portion is the Bank's EUR 241 million exchange rate gain, of which it has realised approximately EUR 174 million through intra-band intervention.

Despite the fact that the value of euro sales by the MNB is below that of the Bank's intervention at the limit of the band, it is safe to assume that the entire amount of speculative capital had exited the market before 23 May. The forint's exchange rate is approximately 10 forints weaker than it was at the time of the speculative attack against the forint's band. Given this rate of exchange, FX market actors, i.e. exporters dealing in hedge transactions as well as non-resident government securities investors, are more willing to take up larger derivative positions in the forint. Part of the speculative capital, i.e. approximately EUR 1.5 billion, left the country through the transactions of market players, who purchased forint from the speculators in order to hedge their exchange rate exposure, rather than through those of the MNB. This means that over 70 per cent, or EUR 3.5 billion, of the speculative capital exited through the MNB's euro sales, whereas a minor part of the speculative positions was transformed into hedges.

Table VI-1 **Changes in the individual sectors' forint positions at an exchange rate near the limit of the band and during the period from the start of depreciation to mid-May 2003**

	HUF billions			EUR millions			
	Resident	Non-resident	Inter-vention	Resident	Non-resident	Exchange rate effect	Inter-vention
Positions taken at band edge exchange rate	19	1220	1239	81	5198		5279
Positions taken since the end of the speculative attack	227	-1164	-937	924	-4735		-3811
Total positions taken (evaluated at average buy-back rate)	246	56	302	1001	226	241	1469

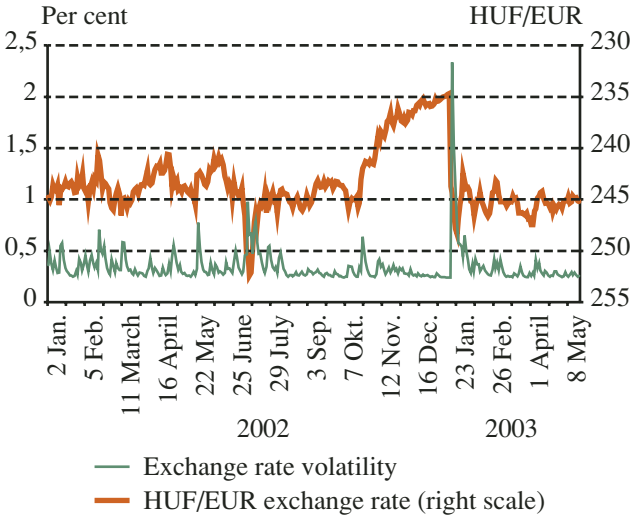
Restoration of central bank instruments

On 24 February 2003, the Monetary Council passed a decision on restoring the monetary instruments to their state prior to the speculative attack. Accordingly, the interest rate corridor surrounding the central bank base rate was narrowed to ±1%, with the quantity restriction simultaneously removed from the two-week deposit facility. This reinstatement of the instrumental framework was enabled by winding up most of the speculative foreign currency open positions.

The reinstatement conveyed a clear message to investors, namely that the provisional period of defence against the speculative attack was over, consolidation was complete and the inflation target was once again in the focus of monetary policy. The restoration of instruments was supported by two factors, which restricted the expected strengthening in the exchange rate and removed the threat of any major appreciation. First, in its statement on 10 February, the Monetary Council made it plain that it was satisfied with the EUR/HUF 245 exchange rate and that the current level of exchange rates was appropriate for meeting the inflation target in 2004. This message had a strong impact on market participants' exchange rate expectations. Second, there were still sizeable long forint positions relative to the size of the Hungarian market, which dampened the rate of appreciation.

As evidence of the success of restoring the instruments, long yields and the forint exchange rate appeared to be stable. Following the announcement of the measure, yields in the government securities markets increased in inverse proportion to the term to maturity of instruments. While overnight interbank rates rose by 2 percentage points similar to the overnight central bank deposit rate, yields on three-month and one-year government securities increased by only 87 and 18 basis points, respectively, and the yields on three and five-year bonds, most sought after by non-residents, remained virtually unchanged.

Chart VI-3 **EUR/HUF exchange rate and its daily volatility**



IMPACT OF THE TRANSITORY CHANGES IN THE INSTRUMENTAL FRAMEWORK ON MARKET DEVELOPMENTS

Changes in the exchange rate

The measures taken by the MNB to fend off the speculative attack successfully cooled down expectations of a shift in the band, causing the exchange rate to depreciate rapidly at a rate in the range of 4 to 6 per cent. In the aftermath of the termination of the speculative attack, the market seemed to be in an uncertain situation for a short time, reflected in increased exchange rate volatility *(see Chart VI-3)*. However, in early February the volatility of the exchange rate returned to the average rate seen in 2002, while the exchange rate of the forint stabilised around the EUR/HUF 245 level, specified by the MNB.

Chart VI-4 **Main policy interest rates of the MNB versus money market rates**

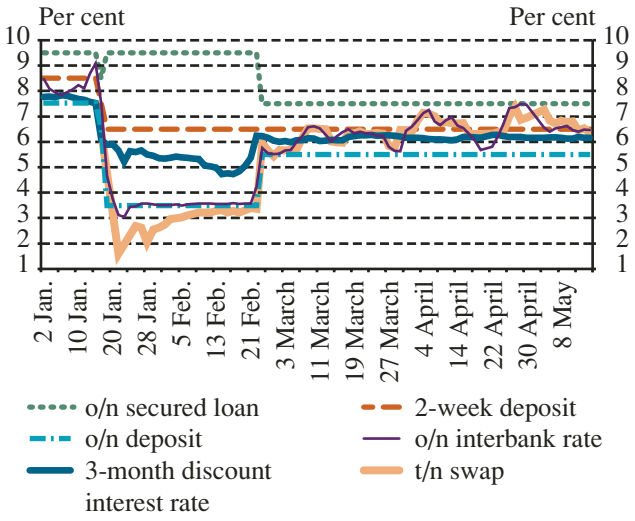
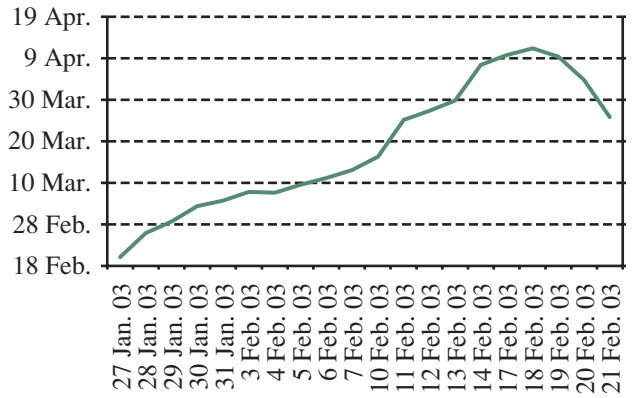


Chart VI-5 **Market expectations of the likely date of restoring the original set of instruments**



According to the Reuters survey of market analysts, average exchange rate expectations at end-2003 declined from HUF 235.4 per euro in December 2002 to HUF 238.7 per euro in January 2003 and HUF 241 per euro in April 2003. The analyst expectations also indicate that in the wake of fending off the speculative attack the credibility of the forint's intervention band increased considerably.

Changes in yields

Following the speculation on appreciation, overnight interbank interest rates got stuck at the bottom of the interest rate corridor, staying there until the reinstatement of monetary policy instruments *(see Chart VI-4)*. This had to do partly with the large inflow of excess funds, and partly with the fact that due to the quantity restriction imposed on two-week deposits, the rate on overnight deposits had become the effective rate. The overnight yield on foreign currency swaps, an instrument primarily used by foreign investors, remained below the rate on central bank deposits, owing to the transaction costs incurred by banks.

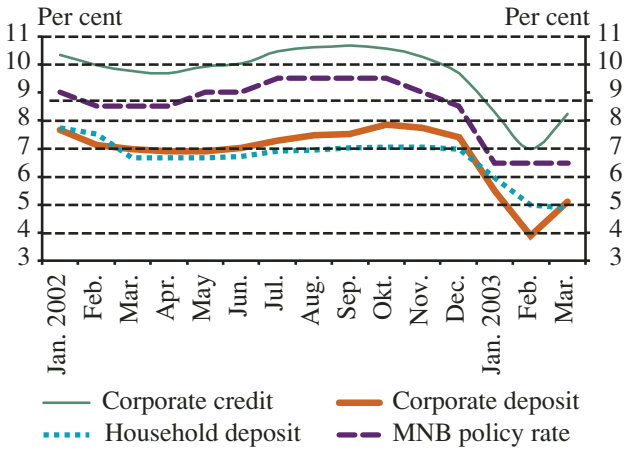
Developments in short-term yields in the government securities market were governed by market expectations of the likely date of restoring the original instruments. In late January, investors expected the instruments to be restored within a month. The publication of the Quarterly Report on Inflation on 10 February and the attached statement by the Monetary Council led investors to believe that the Bank intended to maintain the low level of interest rates over a longer-than-expected horizon *(see Chart VI-5)*, This led to a drop in yields on short-term government securities, with a decline of approximately 60 basis points in the yield on three-month benchmark discount treasury bills *(see Chart VI-6)*.

Table VI-2 **Developments in three-month corporate and household deposit rates in the period between November 2002 and March 2003 (basis points)[78]**

	Mean	Mean adjusted for the reserve ratio	Maximum	Minimum
Decline in corporate deposit rates	239	249	390	74
Adjustment	26	21	130	0
Decline in household deposit rates	275	251	385	195
Adjustment	28	33	80	0
Total reduction in MNB policy rate		**300**		

[78] The average of the 10 banks with largest reserve requirements, according to publicly available terms and conditions.

Chart VI-6 **Average monthly rates of interest on credit institutions' short-term facilities**



Following the MNB's interest rate cut in January, commercial banks also reduced their rates significantly. As corporate loans are in large part linked to BUBOR, they tend to react rapidly to changes in the level of money market rates. By contrast, in their rates on deposits and fixed interest loans, banks followed the MNB's total 100-basis point cut only partially in November and December. The interest rate changes made by commercial banks following the central bank's January cut contained not only the overall 200-basis point central bank reduction at the time of the speculative attack, but also the previous two 50-basis point cuts. At the same time, as banks expected the original set of instruments to be reinstated within a short time, they mostly ignored the reduction in overnight rates in excess of that in the base rate while pricing their deposit and loan facilities. In this way, the provisional changes made in the three-month instruments did not cause considerable additional volatility in yields. The average rate of the rise following the sizeable interest rate reduction on instruments with this maturity was no higher than 20 to 30 basis points.

Rates on consumer credit and mortgage loans fell by 150 to 200 basis points. Based on the interest rate conditions published by large banks, household and corporate deposit rates, in respect of the most prominent three-month maturity, declined approximately 50 basis points less than did the MNB's rates as a whole. After the reinstatement of the instrumental framework, interest rates on consumer loans in the individual market segments reacted to correction in market rates: interest rates on housing loans increased by 0.8 percentage points, while those on consumer loans decreased by 0.9 percentage points.

By contrast, at the shortest maturities, corporate deposit rates fell at a rate exceeding that of the central bank move by 50 to 100 basis points. This was partly because the level of interest rates on variable interest corporate loans was also reduced at a 50–75 basis point higher rate than the central bank's 300-basis point cut (in line with the three-month BUBOR). Furthermore, short maturities are more closely linked to money market rates, which typically respond quickly to central bank moves. As short-term lending has a great weight in corporate lending, statistics reveal that corporate deposit and lending rates overreacted to the reduction in the central bank base rate in respect of less-than-one-year terms to maturity. As a result, these markets experienced a sizeable, 120-basis point correction in March *(see Chart VI-7)*.

Developments in liquidity

The speculative attack designed to cause a shift in the exchange rate band forced the MNB to purchase large amounts of foreign currency at a rate near the upper limit of the band. The purchase of foreign currency and corresponding sale of forints led to a liquidity surplus of the banking sector, amounting to over HUF 1,200 billion, the equivalent of the intervention amount. Having more excess forint supply than necessary to meet the reserve requirement even prior to the speculative attack, banks deposited the intervention outflow of forints with the MNB.

The central bank's intervention purchase caused an increase in international reserves on the assets side of the balance sheet. Simultaneously, a number of balance sheet items changed substantially on the liabilities side, too, partly in connection with the alteration of monetary policy instruments. As the MNB imposed a restriction on the accepted quantity of two-week deposits, in the absence of other alternatives the excess supply of funds created by the intervention had to go into overnight deposits. This raised the level of overnight deposits to over HUF 1,200 billion in the first few days after the

Chart VI-7 **Distribution of liquidity surplus among various central bank instruments**

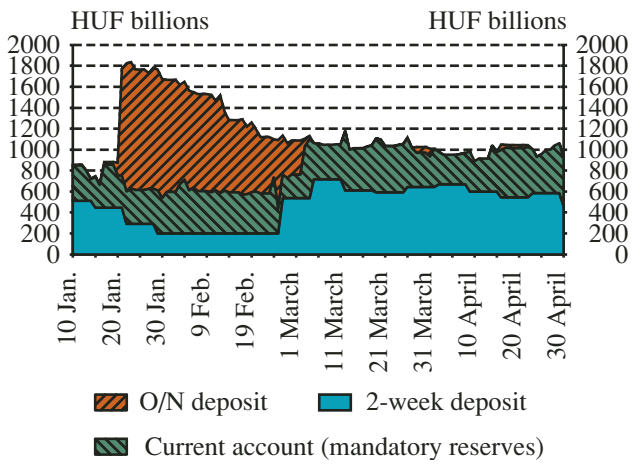


Table VI-3a Balance sheet of the MNB (HUF billions)

Assets	31 Dec. 2002	31 Jan. 2003	28 Feb. 2003	31 March 2003
A./I. Claims on foreign residents (I.+II.)	**2652**	**3744**	**3463**	**3364**
I. International reserves	***2332***	***3461***	***3171***	***3100***
II. Other claims	*320*	*284*	*292*	*263*
A./II. Claims on banks	23	21	20	20
A./III. Claims on central government	1216	1232	1112	1094
A./IV. Other assets	132	119	113	114
TOTAL	***4024***	***5116***	***4708***	***4591***

Table VI-3b Balance sheet of the MNB (HUF billions)

Liabilities	31 Dec. 2002	31 Jan. 2003	28 Feb. 2003	31 March 2003
L./I. Monetary base (I.+II.)	1646	1656	1498	1577
I. Banknotes in circulation	*1280*	*1266*	*1275*	*1288*
II. Current accounts of banks	*366*	*390*	*223*	*290*
L./II. 2-week deposits	**136**	**200**	**538**	**642**
L./III. O/N deposits	**419**	**1066**	**326**	**76**
L./IV. Liabilities to central government	**198**	**500**	**720**	**536**
Treasury accounts	***51***	***383***	***484***	***358***
L./V. Liabilities to foreign residents	1385	1414	1331	1372
L./VI. Net other items	240	280	295	389
TOTAL	***4024***	***5116***	***4708***	***4591***

Bold type denotes balance sheet items on which the intervention in the foreign exchange market, or the change in monetary policy instruments, had a direct or indirect impact. The figures for the monetary base in the table are derived as the sum of currency in circulation and credit institutions' current account balances, but they exclude overnight deposits.

speculative attack. It also meant that in the provisional period, the sterilisation function of the two-week deposits was taken over by the overnight deposits. The implication is that there was no increase in the monetary base, calculated using former statistical methods as the sum of cash balances and banks' current accounts.[79]

The quantity restriction on the two-week deposits was interpreted by many as the MNB's failure to sterilise the money supply created by the intervention, a potential source of inflationary pressure. In reality, the forint outflow created as a result of the Bank intervening at the upper limit of the exchange rate band was virtually fully absorbed by the overnight deposits. Hence, the liquidity surplus caused no direct inflationary pressure. At the same time, interbank rates dropped to the level of the overnight deposit rate of 3.5%, lower than inflation. Had this low level of interest rates persisted, it could have triggered rapid credit expansion and a sharp rise in the rate of money growth. As, however, reinstatement of the original set of instruments on 24 February terminated the period of low short-term rates and commercial banks

[79] In line with statistical harmonisation with the ECB, as of January 2003, the monetary base also comprises overnight deposits maintained at the MNB, in addition to the notes and coin and current accounts. The changeover to the new statistical method accounts for the surge in the annual growth rate of the monetary base seen in January and February 2003. Following the restoration of the monetary policy instruments and the decline of the substantial inflows into overnight deposits, the growth rate returned to previous levels in March 2003.

also adjusted their deposit and lending rates to the key policy rate of 6.5%, the temporary change in monetary policy instruments exerted no inflationary pressure either via the money supply or via the rates of interest.

After the surge in liquidity in the aftermath of the speculative attack, excess liquidity started to decline gradually, due to two factors. First, as short-term money market rates fell sharply, also having a considerable impact on the short section of the yield curve, treasury bill auctions began to experience substantial excess demand, prompting the ÁKK to raise the amount of treasury bills offered, which in turn brought down the excess liquidity by HUF 80 billion. Second, the central bank's intervention by purchasing forints also reduced the excess supply of liquidity gradually and far in excess of the former measure. As a combined result of the two effects, the supply of excess liquidity was halved, by over HUF 600 billion before early March. Simultaneously, the level of overnight deposits maintained by the MNB also dropped to approximately HUF 600 billion prior to the announcement of the restoration of the original set of instruments.

In setting the quantity to be invited for two-week deposit tenders, the MNB wished to channel the liquidity surplus that flowed out during the intervention at the upper edge of the band into the O/N deposit facility. To this end, the MNB put a HUF 100 billion cap on the quantity to be invited for the two-week deposit tenders.

In line with the terms and conditions of business transactions observed by the MNB, the initial procedure applied in the event of overbidding only permitted allocation by dealing cards[80] which basically meant that each bank was allowed to deposit equal amounts in the two-week facility at a rate of 6.5%. Therefore, as early as it was able to do so (any change in business terms and conditions must be announced two weeks before implementation), the MNB replaced the card-dealing method with an allocation rule based on the previous year's reserve requirement. This method openly gave preference to domestic deposit taking banks, pushing up their share in the two-week deposits. This move by the MNB made an even more definite distinction between the levels of interest rates available to the speculative capital and the domestic banking sector. As a result of the allocation adjusted to the reserve requirement, the level of interest rates available for domestic deposit taking banks approached the key policy rate of 6.5%. Furthermore, an even greater share of the excess supply of liquidity created by the Bank intervening at the edge of the forint band was forced to flow into overnight deposits offering a rate of 3.5%. Even though this allocation method was also subject to criticism (as certain types of domestic funds are exempt from the reserve requirement), this system of weights was capable, within limitations, of effectively barring non-resident speculators from high-interest two-week deposits. Moreover, it prevented the five-week quantity restriction imposed on deposits from unreasonably dampening banks' rates on deposits taken from households and companies.

Due to the restriction on deposit quantity and the surge in the volume of overnight deposits, the level of overnight interest rates was stuck at the lower edge of the interest rate corridor (3.5%), even sinking below the central bank overnight rate temporarily. After reinstatement of the set of instruments and the lifting of quantity restrictions on two-week deposits, banks were enabled to re-channel their liquidity from overnight deposits into the two-week facility. After early March 2003 and simultaneously with the drop in the volume of overnight deposits, the overnight interest rate level broke away from the edge of the interest rate corridor returning to approximately 6.5%, the rate prevailing prior to the speculative attack.

The foreign currency purchase in defence of the exchange rate band and the subsequent intra-band intervention as well as the rise in the Treasury Account led to a total of HUF 600 billion excess supply of liquidity relative to the period before the speculative attack. Following reinstatement of the original set of instruments (on 24 February), this amount appeared in the two-week deposits. In addition, the excess liquidity sterilised by the two-week deposits continued to decline due to the MNB selling euros, bringing down the average monthly level to approximately HUF 500 billion. Historically, this is not an exceptionally large volume of sterilisation instruments, given that under the crawling peg regime, the volume of sterilisation instruments occasionally amounted to HUF 800-1000 billion, a much higher volume, while the forint/euro interest rate differential was far higher than the current rate. This implies that in the past monetary policy instruments were successfully able manage a much higher volume of sterilisation instruments. In brief, this after-effect of the speculation episode gives no cause for concern with respect to the operation of monetary policy instruments.

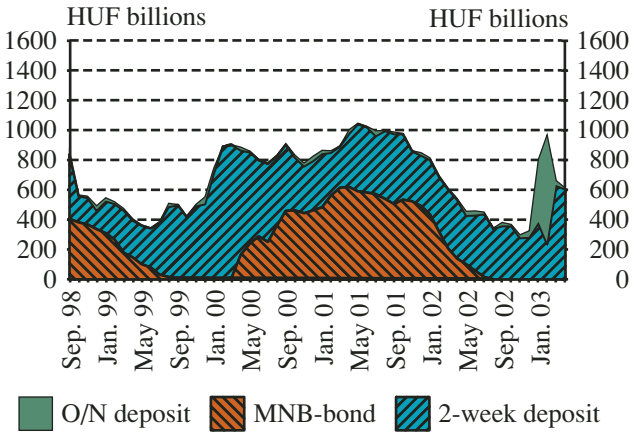
IMPACT OF THE INFLOW OF SPECULATIVE CAPITAL ON THE BANKING SYSTEM

Balance sheet of the banking system

The speculative attack against the forint's band resulted in a temporary distortion of the balance sheet structure of

[80] Should the amount offered be overbid, the amount to be sold would be allocated between bids with identical rates so that all competing bids receive the same amount of securities in each allocation round until the quantity to be sold is exhausted.

Chart VI-8 **Average monthly volumes of sterilisation instruments September 1998–April 2002**

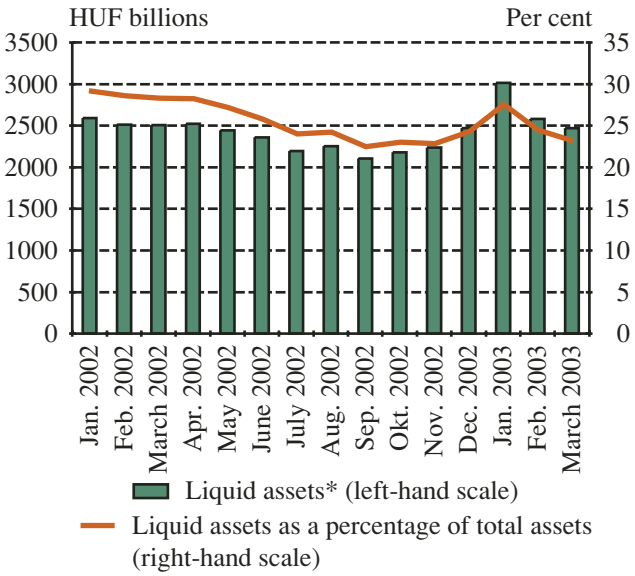


the banking system. The capital that poured in pushed up the balance sheet total of the banking system by 7.4% in January (compared to the average monthly growth rate of 1.2% in 2002). Capital flow via the banking system found its way into O/N deposits held with the Bank, thus precipitating a HUF 1,200 billion increase in the stock of such deposits. Concurrently with the MNB's forint repurchase, the stock of the individual banks' deposits with the MNB decreased by approximately HUF 800 billion compared to the maximum amount in January. The capital inflow caused a temporary shift in the asset structure of the banking system: the proportion of liquid assets jumped from 24.3% to 27.6% in January. As soon as the bulk of the speculative capital exited the market, however, excess liquid assets that had materialised overnight, in effect, no longer existed at end-March. Moreover, the proportion of liquid assets even diminished relative to the final months of the previous year *(see Chart VI-9)*.

As a result of the Bank's prompt response to the speculative attack, short-term market rates plummeted. Therefore, developments in the lending activity of the banking sector are worth investigating. The first quarter of 2003 saw a vigorous increase in lending to the household sector, mainly in the form of housing loans, on which interest rates, as they are subsidised, only moderately react to changes in market rates. As no impact of the speculation on housing loans was detected, dynamics in housing finance continued to be very strong all through 2002.

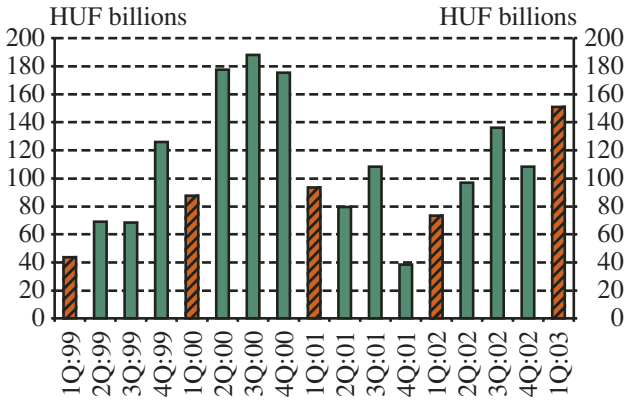
The amount of domestic loans in the corporate sector grew significantly in Q1 *(see Chart VI-10)*. Increase was especially rapid in short-term FX loans. The fact that, with low money market rates, banks' willingness to lend intensified temporarily is likely to have contributed to this marked increase in lending. As this increase is not significant relative to the size of the total loan portfolio, in the Bank's view, no potential related deterioration of the portfolio quality is likely to cause a significant systemic loss.

Chart VI-9 **Proportion of liquid assets**



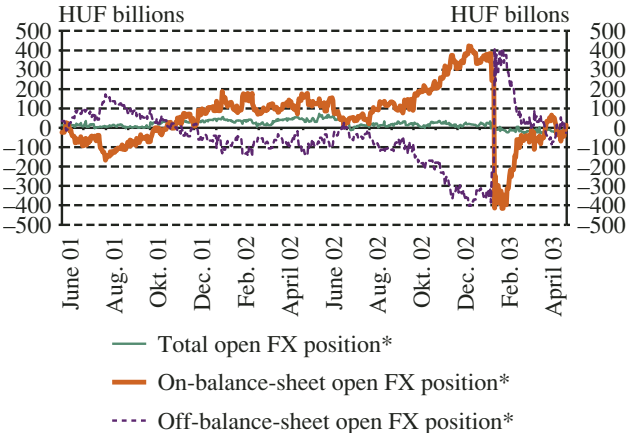
** Liquid assets: cash and settlement accounts, treasury bill and government bond holdings (excluding consolidation bonds), securities issued by the central bank, short-term deposits at the central bank and short-term claims on foreign banks.*

Chart VI-10 **Quarterly increase in the amount of domestic loans to non-financial companies excluding exchange rate effects**



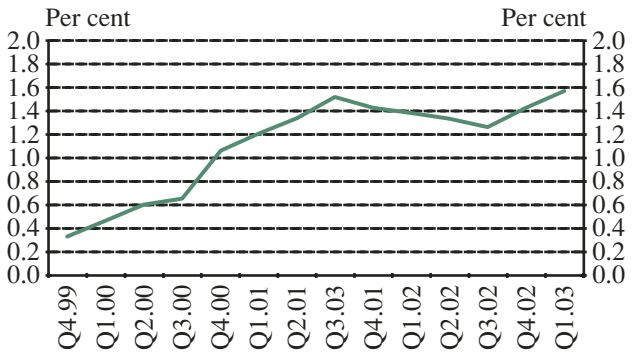
Banks hedged their respective conversion and swap deals concluded with non-resident speculators by opening their on-balance sheet open FX positions. As a result of the speculative attack, the banking sector's on-balance sheet open FX position witnessed a HUF 700 billion shift from an approximately HUF 300 billion long FX position towards long forint position in a mere two days. Since domestic banks only acted as intermediaries in the speculation on appreciation, their total open FX position remained near neutral. Nor did their exchange rate exposure change materially *(see Chart VI-11)*.

Chart VI-11 **The banking system's open FX position**



* *Positive value: long FX position*

Chart VI-12 **The banking system's return on assets (ROA)**



* *Data apply to the last four quarters.*

After a steep drop in the forint's rate of exchange in January, the banking system's total FX position shifted to a minimal short FX position, which is likely to have been an indication of the fact that the majority of the banks no longer expected any further depreciation of the forint. After that – in parallel with the withdrawal of the bulk of the speculative capital – the on-balance (as well as off-balance) sheet open position of the banking system was practically no longer run.

Due to the banking system's near-neutral position, exchange rate volatility, which had increased temporarily in the aftermath of the speculative attack, did not jeopardise the whole of the banking system directly.

PROFITABILITY OF THE BANKING SYSTEM

In 2003 Q1, after-tax profits of the banking sector increased by over HUF 20 billion, i.e. 53% relative to the corresponding period a year earlier. The banking system's return on assets (ROA) rose from 1.43% to 1.57% *(see Chart VI-12)*. Other factors, independent of the outcome of the capital inflow, also contributed to improved profitability. It should be noted, though that, in the short run, banks benefited from the after-effects of the capital inflow in January.

In 2003 Q1 net interest income grew 14% on a year earlier. The net interest margin temporary decreased to 3.6%–3.5% in January 2003, owing to the lower interest rates that could be earned on an increased amount of liquid assets.[81] In March, a decline in low – interest – bearing assets and pricing that had stretched the interest rate spread resulted in a 4.3% net interest margin. The structure of repricing also contributed to the increase of the net interest income, for a rapid re-pricing of the liabilities side, coupled with falling interest rates, implied a positive income effect. (The marked rise in the net interest income relative to the base period is due in part to the fact that housing finance only surged after May 2002.)

Falling market rates and a sudden upswing in FX turnover enabled the banking system to realise significant profit surplus in Q1. Earnings resulting from FX operations (without FX derivatives) were 13% higher than in the base period. Although FX derivatives were loss-generating, altogether there was still a 7% increase in the profit from FX operations. Furthermore, in 2003 Q1 price gains on government securities after a period of falling yields were in excess of those in the whole of year 2002. This is the primary reason why net profit on financial operations exceeded those in the base period by approximately HUF 6 billion (i.e. 56%).

LESSONS TO BE LEARNT FROM THE SPECULATION ON APPRECIATION IN TERMS OF FINANCIAL STABILITY

Despite the apparent uncertainty in the aftermath of the speculation on appreciation, neither the speculation itself nor the subsequent changes in yields and the exchange rate posed a threat to the stability of the Hungarian financial intermediary sector. The prudential rules of the financial regulatory framework (such as capital requirements assigned by the trading book to individual risks, for instance) and banks' internal regulations kept risk exposure at a low level from the very beginning, which prevented the income and liquidity position of the sector from being shaken even in the temporarily more volatile financial environment. While on certain days the daily turnover of VIBER (RTGS) was more than

[81] Net interest margin: net interest income/average total assets

four times that of the previous average, the payment system suffered no interruptions either.[82]

The Bank's change on 16 January in monetary policy instruments successfully separated the permanent effects from temporary ones, in line with the Bank's intentions. The level of interest rates effective with respect to the speculative capital sank below 3.5%, while the 6.5% rate on two-week deposits remained the effective rate for long-term government securities and commercial bank rates. This meant that interest rate volatility was successfully localised, i.e. it did not spread from the interbank market to the market of longer-term government securities, commercial deposits and loans.

The intervention's impact on money supply was first sterilised with overnight deposits and, following restoration of the instrumental framework, two-week deposits. Thus, there was no increase in money supply that would have exerted inflationary pressures or jeopardised the stability of the financial system.

An analysis of the banking system's operations in 2003 Q1 suggests that the inflow of speculative capital in January did not jeopardise the stability of the sector. Nor did its repercussions pose any significant systemic risk. A close look at profitability reveals that, in the short run, banks benefited from the status quo created by the inflow of speculative capital. On the one hand, the banking system had had open positions of the type that enabled temporarily strong exchange and interest rate volatility to exert either neutral (earnings from FX operations), or positive (interest rates) impact on earnings. A temporary dip in market interest rates did contract the interest margin. However, banks managed to offset this to a large extent by using a method of pricing that mainly widened the margin between the individual interest rates on their credit and deposit facilities.

[82] Operating hours were extended only on one single day at the request of some credit institutions (on 21 January VIBER accepted instructions until 17.30 instead of 16.30.).

VI. 2 REGULATIONS ON CONSOLIDATED SUPERVISION IN THE LIGHT OF THE RELEVANT AMENDMENTS ADOPTED IN SPRING 2003[83]

The amendments adopted in spring 2003 affecting regulations on consolidated supervision pertaining to financial groups concluded a regulatory process lasting for several years. The resultant new regulations are fully compliant with EU requirements[84] and provide for the possibility that each financial group can be assessed and supervised as one single unit. As a result, the network of relationships that these 'risky enterprises' have and their risk-taking through such network are more transparent and easier to supervise. With the elaboration of decree-level regulations due in the second half of the year, financial intermediaries will be able to provide data for supervisory authorities according to the relevant new regulations from 1 January 2004 on.

The importance of establishing group-level regulations is justified by instances of both domestic (Ybl Bank) and international (e.g. BCCI and Barings) busts, which unequivocally signalled that the inspection of a given institution on its own was hardly adequate to assess the stability or evaluate the financial position of such institution if there were cosy institutional or personal links between the institutions supervised and other institutions or even natural persons or if they had vested interests, since such links or interests led to dependence. The supervision of groups based on hierarchical dependence requires the adoption of supervisory approaches that are different from the those adopted in the case of individual institutions. By virtue of their size, such groups are, as a rule, the most important and dominant participants in both the national and international markets, a fact that alone substantiates the importance of regulations. The risk of contagion within one single institutional framework also means contagion between the various financial markets (e.g. banks, investment services providers and insurance companies); therefore, their effective regulations and supervision are key to maintaining financial stability.

The adoption of modified regulations has been a must in all three financial sectors, as there have been amendments to Acts on Financial Institutions, the Capital Market and Insurance Companies alike. Regulations governing credit and financial institutions and the capital market have been brought in line with the regulatory regime of the EU. By contrast, the structure of and technicalities concerning regulations pertaining to insurance groups are still somewhat different. The aim of the amendments was to establish a regulatory regime which, while treating institutions dependent on each other as one unit in terms of risk taking, blocks transactions that either seek to exploit regulatory arbitrage or attempt to circumvent special restrictions. (Risk-taking limits do not apply to transactions vis-à-vis each other.)

Institutions to which the relevant sectoral act applies (ACI – credit institutions, ACM – investment enterprises, AIC – insurance companies) can be regarded as key participants governed by consolidation regulations. Such participants are responsible for group-level fulfilment of the applicable requirements and liaise directly with the Supervisory Authority. For it is in their customers' interest as well as their own that the risk originating from the role that the institution supervised plays in the group can be properly assessed.

REGULATIONS PERTAINING TO GROUPS INCLUDING A CONTROLLING CREDIT INSTITUTION

Provisions pertaining to financial groups that comprise a controlling credit institution and/or a financial holding company that owns the credit institution in question apply to two distinct circles of institutions. The Supervisory Authority will keep a record of all institutions and natural persons which or who may, either based on the relevant applying regulations or the estimation of the Supervisory Authority, influence the business operations of a given credit institution as well as of all the enterprises whose business operations are influenced by the credit institution in question (the legal term applied: close link relationship).[85] This is the widest possible circle, where

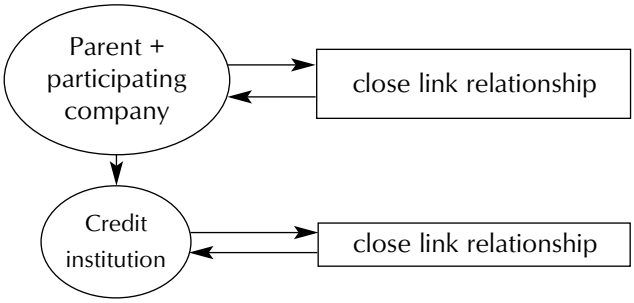
[83] For a detailed treatment of the risks inherent in and the regulations pertaining to financial groups, see Horváth and Szombati, Risks Inherent in and Regulations Pertaining to Financial Groups and Conglomerates, MNB Working Papers No. 25.

[84] As before the adoption of Directive 2002/87/EC on the supplentary supervision of financial conglomerates.

[85] According to the applicable legal definitions, persons with either controlling influence or participation are considered as having a close link relationship. The current definition of controlling influence (parent companies) expands the definition of parent companies as set forth in the Accounting Act as well as of the controlling participation as set out in the former ACI to include considerable influence without capital relationship. Participation denotes either a voting rate or ownership share exceeding 20%.

the Supervisory Authority is only entitled to record data and request information needed for the supervision of the credit institution in question. *(see Chart VI-13)*

Chart VI-13 **Record-keeping and provision of information**



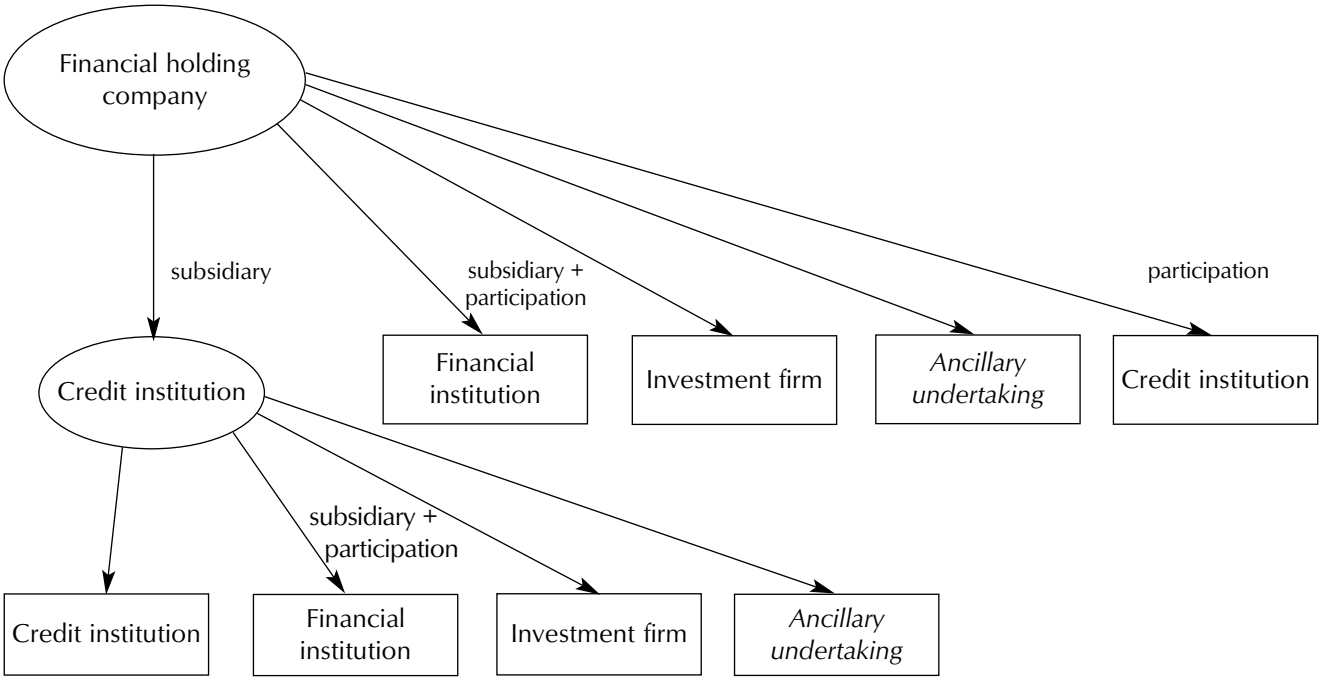
The second and narrower circle includes credit institutions and investment firms that must meet identical prudential requirements and financial companies complementing or ancillary undertakings directly supporting banking operations. In accordance with accounting standards or other regulations, credit institutions/financial holding companies *(see Chart VI-14)* must consolidate these in their respective balance sheets, profit and loss accounts and records of positions. As a result, transactions vis-à-vis each other are taken off and external risk-taking as a whole is recorded in various accounts, thereby reflecting risk-taking as if they were one institution. This narrower circle of institutions as a whole must meet all the limit and capital requirements stipulated in ACI.

Limits on consolidated regulatory capital and risk-taking as well as on capital requirements also apply to the participants (financial and ancillary undertakings) to which such limits or requirements would not be applicable were they not consolidated. This is an important rule from the point of view of prudence because such participants are either owned or influenced by the relevant credit institution, with the practical ramification that it is the credit institution in question that has to cover any potential losses incurred and is exclusively entitled to decide on how profit should be used. The same consideration also holds true for all the undertakings influenced by the holding company that owns the relevant credit institution.[87] In this case, the re-classification as well as the size of gains and losses are mostly influenced indirectly, through the holding company.

REGULATIONS PERTAINING TO GROUPS INCLUDING A CONTROLLING INVESTMENT FIRM

Prevailing prudential EU regulations pertaining to investment firms are based on market practice, i.e. the fact that credit institutions and investment firms are, as a

Chart VI-14 **Consolidated requirements**[86]



[86] When a credit institution is either the parent or participating company of even one of the money and capital market participants listed above, or when the parent company of a credit institution is a financial holding company, such entities fall under consolidated supervision. In the latter case, due to the very existence of the relationship itself, all the participating companies or subsidiaries of the financial holding company must be consolidated.

[87] These regulations do not apply to a holding company (or its other undertakings) that is (are) only a participating company of a given credit institution. It follows that if a holding company is not the parent company of a credit institution, it does not fall under consolidated supervision.

rule, one another's competitors in the market of investment services. Accordingly, risk-taking limits, capital requirements and the assessment of assets are the same for both types. So are the rules of consolidation, with the difference that it is the investment firm, rather than the credit institution that is in the focus of regulations.[88]

The personnel hierarchy affected by consolidated supervision is analogous with that of credit institution groups. *(see Chart VI-15)*

Record-keeping and data provision obligations pertain to entities having a close link relationship with investment firms and their respective parent and participating companies, i.e. the circle described in the section on credit institutions.

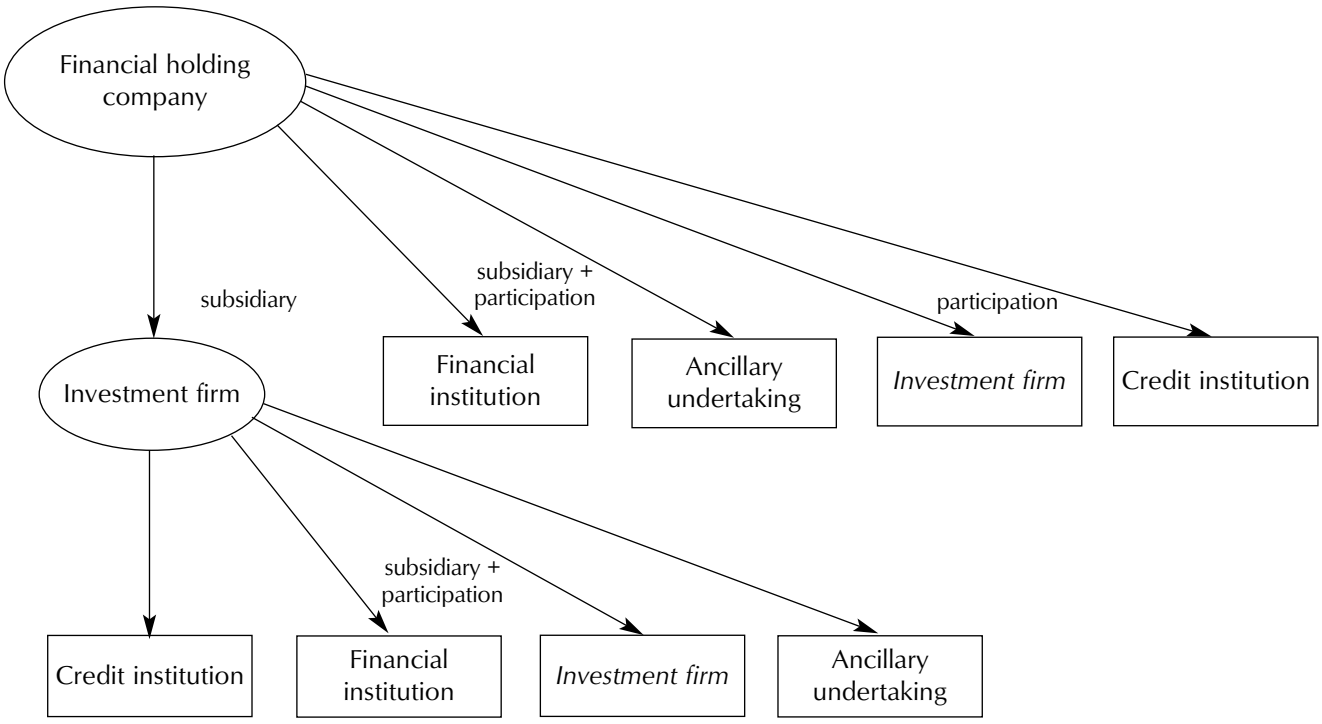
NEW ORGANISATIONAL OBLIGATIONS OF CONTROLLING ENTITIES (ACI AND ACM)

A credit institution or investment firm shall be subject to consolidated supervision if there emerges a parent company-subsidiary or participating company relationship (close link relationship) between such institution or firm and another regulated institution. The credit institution or investment firm supervised must inform the Supervisory Authority of such a relationship. Should it fail to do so, the Supervisory Authority is entitled to deem the relationships identified at on-site inspections or upon examining documents as a close link and request that the credit institution or investment firm comply with consolidation requirements and prepare its calculations accordingly.

In the course of a group's business operations, it is the responsibility of the top management of the relevant controlling entity to comply with consolidation requirements, as the applicable legal regulations assign responsibility for the supervision of the prudent business operations of subsidiaries to an appointed member of the board of directors.

Amendments not only require supervised companies to comply with the new requirements, some of the new provisions also facilitate the implementation of such requirements. Thus, the provisions stipulate, for instance, that a controlling entity shall be entitled to request its subsidiaries to comply with those group-level

Chart VI-15 **Consolidated requirements**[89]



[88] Another difference is when a holding company doubles as the parent (not merely participating) company of a credit institution and an investment firm. In such case, consolidated supervision focuses on the credit institution in question, and it is either this credit institution or the holding company that consolidates the investment firm.

[89] When an investment firm is either the parent or participating company of even one of the money and capital market participants listed above, or when the parent company of an investment firm is a financial holding company, such investment firm falls under consolidated supervision. In the latter case, due to the very existence of the relationship itself, all the participating companies or subsidiaries of the financial holding company must be consolidated.

requirements which apply to them, and that all persons in close link relationship with the controlling entity shall provide the relevant controlling credit institution, investment firm, financial holding company and, either through them or directly, supervisory authorities with all the information needed.

In order to be able to provide consolidated data, a controlling entity must have a comprehensive information network that covers the entire group, establish an IT system that can provide all the related data and a system of internal supervision responsible for supervision.

SUPERVISION OF GROUPS WITH CONTROLLING INSURANCE COMPANIES

The regulatory framework of insurance companies is clearly different from those of the money and capital market participants described above. Differences in regulations in past decades were substantiated by the market role as well as the risks that insurance companies assumed. They did not use to compete with credit institutions or investment firms in the market of financial services. Now such differences are becoming increasingly blurry, with each market participant coming up with increasingly diverse services. Regulators seek to follow such developments and, as a result, the need for i*dentical regulations for identical risks* (i.e. functional approach) is often voiced.

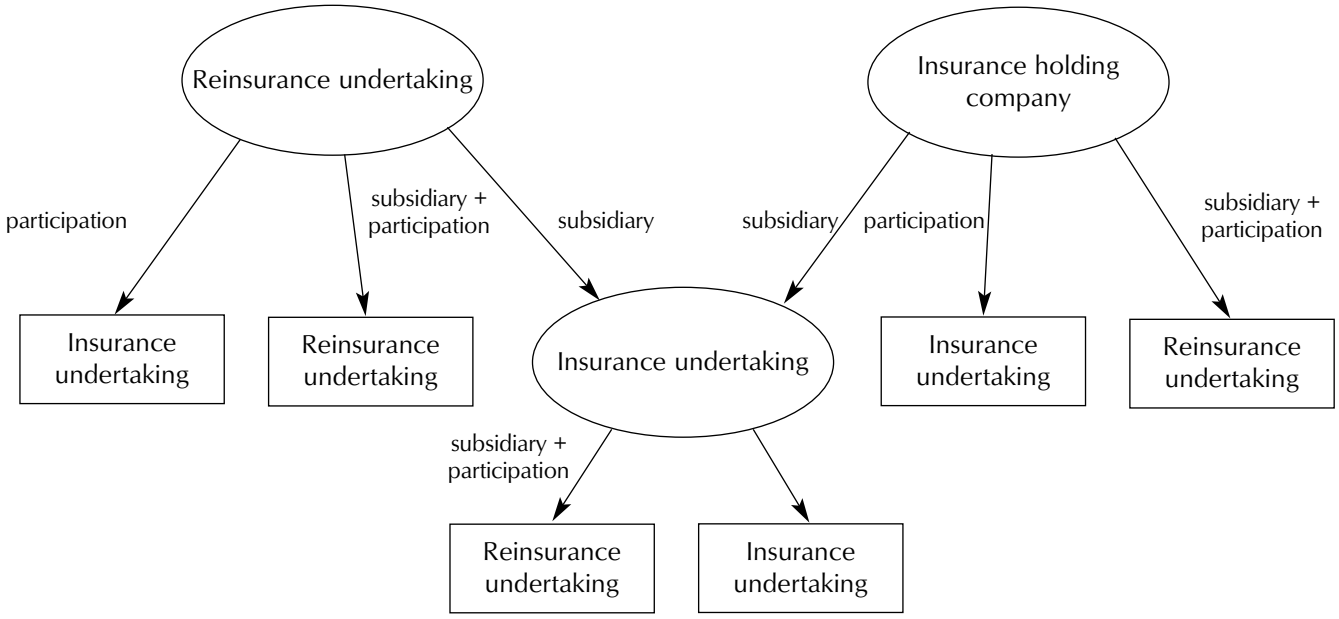
Since regulations pertaining to insurance groups were framed, to a certain extent, in this spirit, instances of departure from the regulatory logic presented in the sections on credit institutions and investment firms are few and far between. The same types of relationships (parent and participating companies) qualify as influencing ones. Accordingly, entities in identical hierarchies fall under consolidated supervision *(see Chart VI-16)*.

The above group of entities provides consolidated data by adopting consolidation methods as set forth in either the Act on Accounting or the Act on Insurance Companies. Similarly to the credit institution (investment firm)–financial holding company relationship, when an insurance holding company or a re-insurer is not the parent company of an insurance company, but rather has a participation in it,[91] the entities in question do not fall under consolidated supervision, even if they own another re-insurer as their parent company.

Insurance groups have record-keeping and data provision obligations vis-à-vis their respective parent companies, subsidiaries and participating companies, regardless of the individual business profiles of such, as illustrated in Chart VI-17.

There are, however, some new aspects as far as regulations governing inter-group transactions are concerned. By contrast with what is enshrined in ACI/ACM, insurance companies must report to the competent supervisory

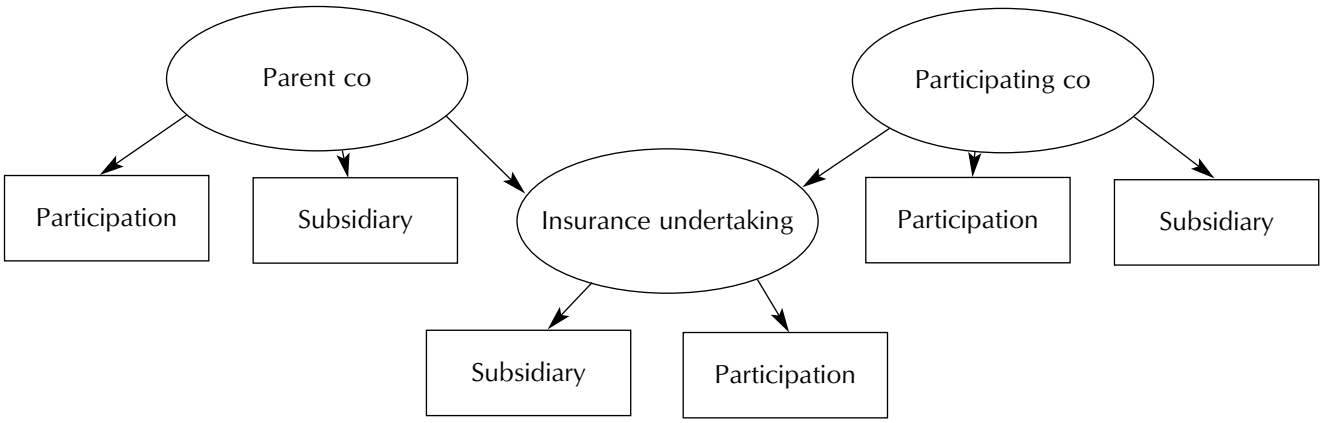
Chart VI-16 **Consolidated requirements**[90]



[90] When an insurance company is the parent company of either a re-insurer or another insurance company, or when it has an ownership share in either, or when either a re-insurer or an insurance holding company is the parent company of an insurance company, such relationships fall under consolidated supervision. In the latter case, due to the very existence of the relationship itself, all the participating companies or subsidiaries and re-insurers of the insurance holding company must be consolidated.

[91] For the difference, see Footnote 85.

Chart VI-17 **Supervion of record-keeping, informatoin provision and inter-bank transactions**



authority each inter-group transaction (between the participants shown in the chart) as well as transactions concluded between natural persons who have an ownership share in the above participants and insurance companies.

The organisational obligations of controlling insurance companies and insurance companies owned by insurance holding companies/reinsurers are similar to those of controlling credit institutions and investment companies: they must have a comprehensive information network that covers the entire group and a system of internal control.

DEPARTURE FROM ACCOUNTING CONSOLIDATION

So far only accounting rules have addressed the issue of consolidation, i.e. offsetting the assets and liabilities of certain participants and only for accounting purposes.

In contrast to the type of consolidation set forth in accounting rules, the consolidation addressed in financial legal regulations seeks to identify and record shared risk-taking. As a result, there are certain differences in the method of consolidation as well as the group of entities consolidated.

Although the implementation of prudential consolidation is fundamentally governed by accounting rules, material differences may arise owing to the existence of the conflicting definitions of various relationships and that of differing groups of entities. Consolidated statements prepared in accordance with the Accounting Act have, therefore, only limited applicability, with the differences categorised as follows:

If the method of accounting consolidation is adopted as the main guiding principle, it may well be the case that

AA	**Parent**	**Participation**[92]	**Participation**	**neither parent, nor participation**	**Parent**
ACI/ACM/AIC	**Parent**[93]	**Parent**	**Participation**	**Parent**	**neither parent, nor participation**
Difference in methods of consolidation and group of entities consolidated	ACI allows for the possibility of consolidation in proportion of capital share.	Either overall consolidations as per ACI or the method as prescribed by and set forth in respectively by the supervisory authority/AIC	Consolidation in proportion of capital share (e.g. four owners, with a 25% ownership share each)	Method prescribed by supervisory authority	ACI does not allow for the possibility of consolidation.
Reason(s) for difference	Different definition of parent companies-subsidiaries.	As well as capital relationship, there is also controlling influence.	Conflicting rules governing the method of consolidation	Conrolling influence without capital relationship	Non-money and capital market entity

[92] Affiliate and jointly managed companies combined.
[93] The current definition of the parent company relationship (controlling influence) as set forth in ACI/ACM/AIC complements that of the parent company as set forth in AA and of controlling participation as set forth in the previous ACI with the concept of considerable influence without capital relationship. Participation means ownership/voting rates in excess of 20%.

a company that qualifies as a participating (affiliate or jointly managed) company under the Accounting Act will simultaneously qualify as a parent company according to the relevant financial sector laws, or even that a parent company under the Accounting Act will not have to be consolidated financially either as a participating or parent company. Differences can easily present themselves even when an entity qualifies as either a parent or participating company in both types of consolidation, because in such cases the relevant financial sector laws require the adoption of a different method of consolidation with the same ownership/voting rates.

REGULATORY INCENTIVES

The obligation of meeting the requirements of consolidation, related organisational responsibilities and potential instructions all presuppose that entities *are indeed* closely related to each other both organisationally and operationally. If there were no such close-knit relationship organisationally, but the risk inherent in the entities supervised were different because of such relationship, then regulators would nudge entities to establish organisational hierarchy as soon as realistically possible.

The fact that regulators deem inter-group transactions as exceptions is likely to provide market participants with a powerful incentive to meet their relevant requirements. For, in the case of such transactions, no restrictions are imposed on the risk that they take vis-à-vis each other. No regulatory capital deduction has to be made either. Regulators, on the other hand, strive to identify and counter procedures intended to circumvent the meeting of special requirements. As a result, the stability of supervised entities also increases.

VI. 3 Patterns of financing – financial accounts in Hungary

From spring 2003, the Magyar Nemzeti Bank publishes financial accounts for the national economy on a quarterly basis. The Bank also previously published data on the assets and liabilities of non-residents, monetary financial institutions (MFIs), households, general government and certain types of securities. The publication of the financial accounts is different in that it provides a comprehensive picture of the financial relationships existing within the national economy with regard to both sectors and financial instruments, taking account of all financial assets and liabilities of each institutional sector. It describes the financing patterns of the sectors by taking into account all financial assets and liabilities of each institutional sector. The compilation of the financial accounts is based on uniform accounting rules and categories specified in the ESA 1995, the methodology guidelines on the compilation of national accounts, adopted as a legal instrument by the European Union, with the aim of ensuring internal consistency and international comparability.

In compiling Hungary's financial accounts, the Bank's objective was to satisfy the most detailed methodological recommendations and the needs of potential users, instead of merely adopting current practices abroad and fulfilling data reporting obligations. Thus, with the publication of the financial accounts, the Bank provides analysts and decision-makers with quarterly statistics in a full breakdown by instrument and sector.

Building on detailed data assisting the experts in the various statistical areas, the financial accounts also provide summary indicators. Balancing items, net financial worth and net lending or borrowing, incorporated in the national accounts, complement the numerical expression and description of economic events. For example, as a financial equivalent of economic developments, the financial accounts provide a framework to analyse indicators describing the economy (GDP, incomes, savings and fixed investment). Forecasting the aggregates of the financial accounts, in turn, provides the same controlling framework in the areas of monetary planning and examinations aimed at financial stability.

CONTENTS OF THE FINANCIAL ACCOUNTS

It should be noted that the term 'financial accounts' has both a broader and a narrower definition in the relevant international literature. In a narrower sense, the financial account records changes in financial assets and liabilities due to transactions. The balance of transactions equals net lending or borrowing, which is the closing balance of the accounts within the national accounts presenting real economic events. This equality shows that the portion of income generated in production, not spent on consumption or fixed investment, is reflected in the accumulation of a financial asset or undertaking liabilities.

In a broader sense, the financial accounts comprise the stocks of financial assets and liabilities, and the balance sheets and accounts representing the components of changes in financial assets and liabilities. Within changes in assets and liabilities, the revaluation account describes changes in assets and liabilities which arise from price movements. The other changes in the volume of assets[94] account records changes in stocks which do not occur due to economic causes (for example, reclassification, new sector classification or unilateral write-offs of claims). Economic events other than revaluations and other changes in volume comprise transactions in the system. Of the balance sheets, opening and closing balance sheets describe the stocks of assets and liabilities existing at the beginning and the end of the accounting period, respectively.

In contrast with non-financial (i.e. tangible or intangible) assets and products, an important characteristic of financial assets recorded in the financial accounts is that these are the assets of certain units and at the same time a liability of other units.[95] Therefore, in a closed economy financial assets (liabilities) are equal; their balance. i.e. net financial worth is zero, apart from the exception noted in the footnote. This relationship is also valid for the stocks of the various categories of asset and the components of changes in stocks. It stems from the fact that financial assets play a mediating role in the economy between debtors and creditors.

[94] Data are currently not available.
[95] There is one exception–monetary gold and SDR, being central banks' special reserves, do not have a liability counterpart.

Whether talking about the financial accounts in a narrower or broader sense, it should be emphasised that they are complete and constitute a system. There are two aspects of the completeness of data reported. First, the main sectors (non-financial and financial corporations, general government, households, non-profit institutions serving households and the rest of the world sectors) as well as their sub-sectors cover all economic units as disjunctive sets. Second, grouping financial assets and liabilities into seven major, disjunctive clusters, the accounts present the whole financial worth of these units.

The systematic nature of the financial accounts can be captured in two ways. First, as part of the national accounts, they provide very detailed information on the financing background and aspect of economic activities. Second, as an independent system, they provide a consistent picture, comparable both over time and space, of the economy's financial development, stability and continuous operation.

DIFFERENCES OF FINANCIAL ACCOUNTS WITH PREVIOUS PUBLICATIONS

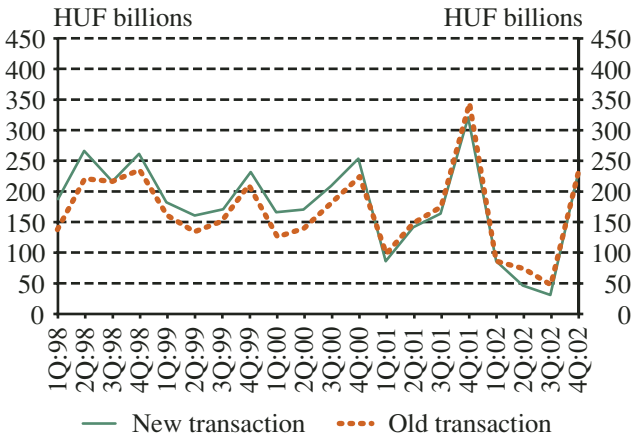
With the publication of Hungary's financial accounts, the Magyar Nemzeti Bank provides a comprehensive and consistent set of statistical data on the total economy. As a result of this comprehensiveness and consistency, data published earlier have been changed to some extent. In addition, data on non-residents have also been published according to a new methodology, simultaneously with the balance of payments. These changes affect three sectors: households, general government and the rest of the world.

Households

In the case of the household sector, the largest changes were caused by the incorporation of data on holdings of unquoted shares and other equity (earlier, only quoted shares were recorded). This change had the largest effect on stocks (at end-2002: HUF 3,493.8 billion),[96] as a significant portion of flows is accounted for by revaluation (transactions amounted to HUF 61.3 billion and total flows to HUF 467.5 billion in 2002). On the assets side, recording compensation vouchers (HUF 8.6 billion and HUF –0.1 billion),[97] actuarial reserves not linked to life insurance (HUF 90.8 billion and HUF 12.4 billion) as well as assets arising from investment and servicing activities of other monetary financial institutions (HUF 7.5 billion and HUF 1.3 billion). In addition, the data contents of corporate bond holdings and value also changed, due to using in part new data sources (HUF 35.0 billion and HUF 18.6 billion).

Household liabilities changed for two reasons – loans granted by financial enterprises are also recorded under loans (HUF 344.3 billion and HUF 150.5 billion), and other changes in volume were separated from transactions (HUF 0.0 billion and HUF –8.2 billion).

Chart VI-18 **Households net lending (transactions) according to the old and new methodologies**



General government

The Statistics Department of the MNB published financing data on general government on a monthly basis between 1999 and end-2002. In an unchanged structure but with constantly changing contents, data reporting gradually approached the requirements of financial accounts. Since early 2003, the data content of statistics on general government, released as part of the financial accounts, have been expanded significantly relative to the earlier practice; however, this affected mainly financial worth and, to a smaller extent, flows, in particular transactions. The incorporation of data on shares and other equity has caused the largest change in the stock of financial assets (amounting to HUF 2,083.3 billion at end-2002). In earlier statistics, the Bank only provided transactions data on shares and other equity, which changed only to the extent of recording central bank shareholdings in the new publication.

As an important new feature, other assets and liabilities have been complemented, linked to the accrual-based accounting of taxes and contributions (at end-2002: HUF 785.5 billion and HUF 81.7 billion). Lending to and borrowing by general government as well as advances have also been complemented on the basis of reports by budgetary units. This has influenced mainly the sec-

[96] Except for the year 2000, when transactions increased significantly, due to compulsory capital increases.
[97] The data in brackets refer to stocks at 31 December 2002 and 2002 transactions, unless otherwise indicated.

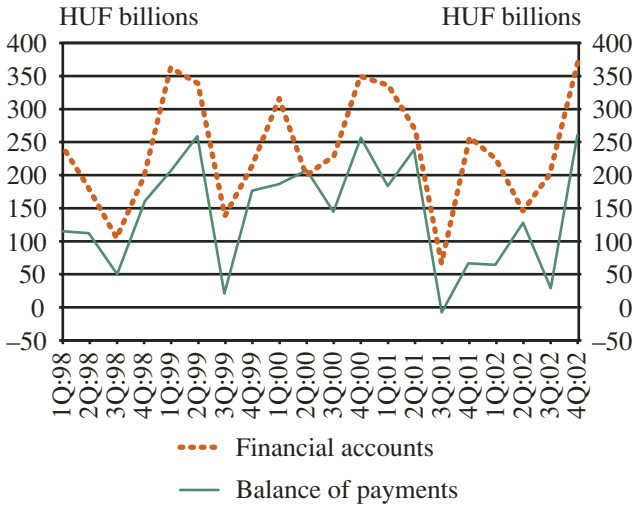
tor's unconsolidated financial indicators. The impact on the components of changes in the stock of financial derivatives have been estimated on the basis of balance of payments data, instead of the earlier Bank estimates.

Non-residents (balance of payments)

Financial accounts data on non-residents are comparable with the tables 'Financial account' and 'International investment position' (IIP) in the balance of payments. Currently, the largest difference between transactions data in the two statistics is caused by the different methods of recording reinvested earnings and accrual-based dividend payments (HUF 150.4 billion and HUF 445.4 billion). In the IIP, the largest differences are accounted for by recording unquoted shares and other equity (HUF 2,013.4 billion).[98] Securities (HUF 88.1 billion and HUF 19.7 billion) and accrual-based interest (HUF 46.8 billion and HUF –8.9 billion) also cause significant differences which affect non-residents.

One source of the major differences affecting non-residents is recording interest on an accrual basis (HUF 51.0 billion and HUF –12.3 billion), foreign currency holdings by households (HUF 54.7 billion and HUF 35.7 billion), and monetary gold and SDR[99] (HUF 151.4 billion and HUF 40.2 billion).

Chart VI-19 **Hungary's net lending vis-à-vis the rest of the world**



THE IMPORTANCE OF FINANCIAL ACCOUNTS FOR STABILITY

In judging banking sector stability and assessing the risks facing banks, it is highly important to analyse on a continuous basis the financial strength of sectors financed by banks. The system of financial accounts, available continuously over time, provides an opportunity to analyse more accurately and more deeply the position of the more important sectors.

Because of its proportion of the total portfolio, assessment of the creditworthiness of the private sector, and non-financial corporations as well as households in particular, has the greatest importance for the banking sector. In evaluating systemic risks, the Bank analyses several dimensions using the financial accounts: income position, quality of financial assets and indebtedness.

In analysing firms' income position over the short term, the Bank continues to apply the 'bottom-up' approach and calculates the size of disposable income relative to GDP from the net financing requirement derived from the financial accounts and statistical data on accumulation. Households' income position, in turn, is analysed on the basis of net worth derived from the financial accounts and from net lending, in addition to expert estimates of growth in real income.

In the case of both sectors, the Bank analyses the structure of assets, shifts towards savings instruments outside the banking sector as well as developments in the ratios of high-risk and liquid assets in analysing financial assets.

In assessing the degree of non-financial corporations' indebtedness, the Bank monitors the size of and changes in leverage (most frequently, the ratio of external finance to equity) as well as the structure of financing. In the case of households, both the ratio of outstanding borrowings to financial assets and changes in the relative interest burden are analysed.

Finally, international comparability of financial accounts broadens the analytical framework. This, in turn, may help rank the individual sectors according to risks.

[98] This has not changed transactions data, as balance of payments data have been used.
[99] In the financial accounts, monetary gold and SDR within the central bank's assets do not constitute a liability of non-residents.

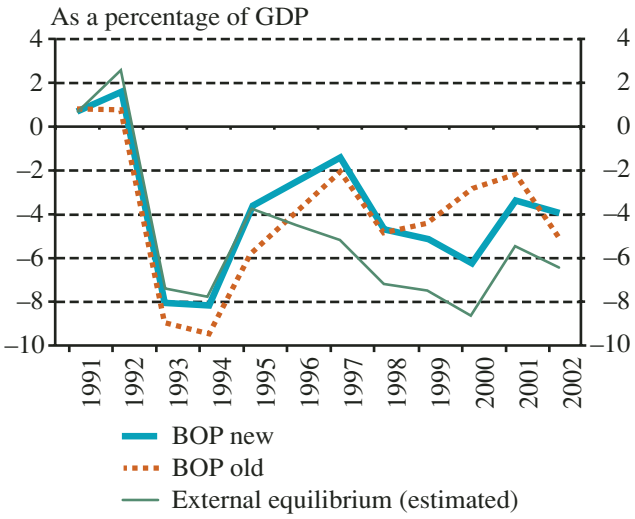
Table VI-4 **Hungary's net financing requirement vis-à-vis the rest of the world**

	1998. Q I.	**Q II.**	**Q III.**	**Q IV.**	**1999. Q I.**	**Q II.**	**Q III.**	**Q IV.**	**2000. Q I.**	**Q II.**	**Q III.**	**Q IV.**
Financial accounts	244.7	179.3	105.4	198.2	362.6	338.9	138.7	213.9	315.2	199.9	229.5	349.7
Balance of payments (financial account)	116.4	113.6	48.7	159.0	206.0	260.2	19.4	176.2	186.6	206.8	144.6	256.1
	2001. Q I.	**Q II.**	**Q III.**	**Q IV.**	**2002. Q I.**	**Q II.**	**Q III.**	**Q IV.**				
Financial accounts	335.1	268.8	65.9	256.5	225.0	146.3	203.5	371.3				
Balance of payments (financial account)	183.5	239.7	–9.0	67.7	66.4	127.7	28.5	259.7				

VI. 4 HUNGARY'S EXTERNAL BALANCE BETWEEN 1991–2002 BASED ON FINANCIAL ACCOUNTS DATA

As part of the financial accounts, statistical data covering capital flows between the economic sectors have been available since 2003 in a macro-economically consistent system. The new statistics include all financial assets and liabilities of the sectors, and thus provide a more detailed picture of Hungary's external financing requirement than the balance of payments statistics.[100] The new data releases make it possible to analyse the new external equilibrium indicator, consistent with the uniform international methodology, from 1998. For earlier years, the Bank has produced data estimates. The official time series, going back to 1995, will be published in April 2004.[101]

Chart VI-20 External equilibrium indicators as a percentage of GDP*



* *Equilibrium data estimated between 1991–1997.*

The new external equilibrium indicator differs from the data estimates, derived on the basis of balance sheet data, in a number of points.

First, the Bank has changed the method of recording official current account data, going back to 1995. Instead of the cash-based statistics in earlier bank reports, the MNB records data on goods trade according to the accrual method, on the basis of customs data. This methodological change has established harmony between whole-economy data on trade in goods according to the national accounts and balance of payments statistics. Hungary's current account deficit, calculated on the basis of the new methodology, increased between 1999 and 2001, before falling in 2002 (*see Chart VI-20* and the new methodology).

Second, reinvested earnings of non-residents in Hungary have also been recorded in the net financing vis-à-vis the rest of the world in the financial accounts. Reinvested earnings have resulted in a higher financing requirement amounting to 2–2.5% of GDP.

In should be noted that recording reinvested earnings does not lead to additional financial requirement over the short term from the perspective of financial stability, as reinvested earnings of non-residents are also recorded as direct investment in the financial account. However, recording reinvested earnings makes it possible to compare with international balance of payments data, and earnings data behave differently from the perspective of the business cycle. As a result of direct foreign investment, dependence on foreign owners has increased, as non-residents' investment and reinvestment decisions have had a significant effect on Hungary's external balance.

Non-residents' reinvested earnings reached their peak in 1997–1998, in line with the cycle of corporate fixed investment. Since then, they have stabilised around 2–2.5% of GDP. This outcome is high in international comparison; only Ireland has registered a higher ratio of reinvested earnings *(see Table VI-6)*. Of the countries of Central and East Europe, non-resident investors have registered losses in Poland in recent years. The Czech Republic has been releasing data on reinvested earnings, which amount to 1–2% of GDP.

The external equilibrium-to-GDP indicator which reflects reinvested earnings as well was the highest in

[100] The external financing requirement also includes the capital account balance, in addition to the balance of payments. For the precise definitions, see 'Patterns of financing – financial accounts in Hungary, in Section 6.3.

[101] The Bank has made expert estimates for earlier years, based on the national accounts and reports by the tax authority.

Hungary of the EU accession countries in 2000. In 2001–2002, this difference fell somewhat, due to the decline in corporate activity.

The Bank's data estimates put the developments of the 1990s in a different light compared with the picture provided by earlier balance of payments data.

In the first part of the 1990s, the external equilibrium indicator shows a lower deficit than indicated previously, as at that time foreign firms operating in Hungary were loss-making. The increase in general government deficit in 1993–1994 was associated with an increase in the external financing requirement *(see Chart VI-21)*.[102]

During those years, part of the expansionary impact of fiscal policy on demand had a direct influence on the real economy, as the state financed the losses registered by the corporate and banking sectors. Consequently, the deterioration in the financial position of general government had a stronger effect on external equilibrium. Corporate sector fixed investment began rising, but its ratio to GDP remained well below the level seen in the late 1990s.

The effect of the fiscal adjustment of 1995 on external financing was significant but smaller, and it took a shorter time than was thought based on earlier data. The fiscal adjustment programme amounted to 6% of GDP in two years. Although its indirect effects were reflected in the fall in external financing requirement over the longer term, the corporate sector financing requirement increased it steadily. Consequently, by 1998 the external equilibrium-to-GDP ratio had risen near to the above 7% value registered in 1994.

Non-residents' reinvested earnings began rising significantly in 1996, boosting corporate sector fixed investment activity. The volume of the sector's fixed investment reached its peak in 1998–1999 *(see Chart VI-22)*. From 1999, investors' uncertainty following the Russian financial crisis and then the decline in external business activity reduced foreign investors' propensity to reinvest their earnings and their fixed investment activity.

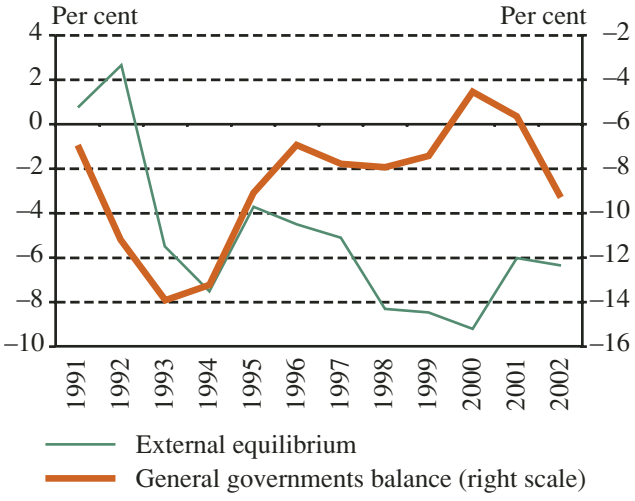
Last year's large deterioration in the general government sector's financial position was associated with a significant shift in Hungary's external equilibrium position, as firms reduced their investment activities considerably, ran down their stocks, with a fall in capacity utilisation, due to the slowdown in economic growth.

CONCLUSIONS OF THE STATISTICAL ANALYSIS

This analysis sought to find out the extent to which the behaviour of general government, firms and households influenced the development of external balance. Based on the analysis of the time series for the period from 1991, an attempt was made at capturing the relationship between economic agents' savings-investment balance and the Bank's estimate of developments in external equilibrium using econometric tools as well.

The relationship between general government's financial position and external financing was successfully demonstrated. Accordingly, a one percentage point change in the sector's balance as a proportion of GDP influences the external equilibrium-to-GDP ratio by 0.3–0.6 percentage points. Consequently, the change in general government's financial position has a direct influence on external equilibrium. In the first half of the 1990s, financing firms' losses directly by the state was immediately reflected in the deterioration in external balance. In recent years, when the expansion of demand has occurred through the robust increase in household income, in addition to public fixed investment, the impact on external balance has been more indirect, and may take longer to have its full effect.

Chart VI-21 **General government deficit and external equilibrium as a percentage of GDP**

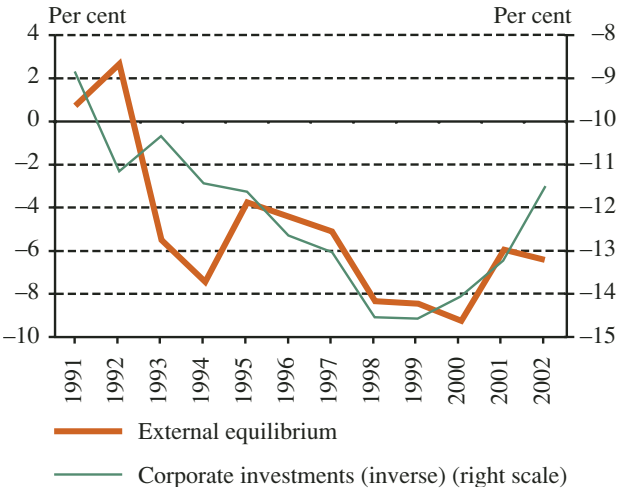


In this article, corporate behaviour and the impact of their investment decisions on external equilibrium were characterised on the basis of developments in the corporate fixed investment-to-GDP ratio. According to the results, a one percentage point higher corporate fixed

[102] The general government deficit has been defined on the basis of the SNA deficit, complementing it an estimated distribution of extraordinary capital transfers. For more details on the SNA deficit, see Manual on Hungarian economic statistics. For an earlier version of the distribution of extraordinary capital transfers, see P. Kiss, G., 'A fiskális jelzőszámok új megközelítésben' (Fiscal indicators in a new approach), Közgazdasági Szemle, 4/2002.

investment as a proportion of GDP increases the ratio of external equilibrium to GDP by 0.8–1.2 percentage points. A pick-up in the sector's fixed investment activity raises the external financing requirement over the short term. However, new production capacities, emerging as a result of fixed investment projects, add to the country's export potential over the longer term, and result in import substitution, which, in turn, improves external equilibrium.

Chart VI-22 **Corporate fixed investment* and external equilibrium as a percentage of GDP**



* *For the sake of clearer demonstration, the chart plots corporate investment multiplied by –1. As a result, an increase means a decline in corporate investment, this being a factor reducing the external financing requirement.*

The article also examined the relationship between changes in household net savings and external equilibrium,[103] with an only weak, insignificant relationship demonstrated. A one percentage point increase in household net savings reduces external financing by 0.2 percentage points, as a proportion of GDP.

The change in the position of general government and corporate fixed investment activity in the period under examination significantly influenced the Bank's estimate of the external equilibrium indicator. The developments of recent years have been contradictory, as, due to the expansionary effect of the state on demand, the relatively high external imbalance as a proportion of GDP has remained, while firms have taken a net lending position and, simultaneously, they have reduced their fixed investment spending. A significant pick-up in export capacities and, consequently, an improvement in external equilibrium cannot be expected, due to firms' low fixed investment activity in previous years.

With the recovery of external business conditions, the corporate sector's financing requirement will likely grow, which will not lead to the further build-up of the country's external financing requirement, only if the state implements an emphatic contractionary policy in the coming years.

Table VI-5 **Net reinvested earnings as a proportion of GDP** (per cent)**

	1998	1999	2000	2001
Greece	n. a.	n. a.	n. a.	n. a.
Ireland	–4.6	–8.1	–10.0	–8.2
Portugal	–0.5	–0.6	–0.1	–0.1
Spain	n. a.	n. a.	n. a.	n. a.
Finland	–3.4	0.4	–0.1	–2.3
Poland	0.1	0.3	0.2	0.6
Czech Republic	–0.5	–1.3	–1.9	–1.5
Slovak Republic	n. a.	n. a.	n. a.	n. a.
Hungary	–2.4	–2.3	–2.4	–2.0

– = net outflow of investment income.

*** Economic Department's estimate for 1991–1997on the basis of the APEH report; Statistics Department's financial accounts data for 1999–2001.*

Sources: FOBSY 1998–2002; IFS May 2003.

[103] Households' investment/saving balance = net household sector lending.

Table VI-6 External equilibrium as a percentage of GDP* (per cent)

	1998	1999	2000	2001
Greece	n. a.	-5.8	-8.7	-8.0
Ireland	1.2	0.4	-0.6	-1.0
Portugal	-7.3	-8.5	-10.3	-9.0
Spain	-0.5	-2.3	-3.4	-2.6
Finland	5.7	6.0	7.5	7.1
Poland	-4.3	-8.1	-6.3	-3.0
CzechRepublic	-2.3	-2.7	-5.2	-4.6
Slovakia	-9.7	-5.7	-3.5	n. a.
Hungary*	-7.2	-7.4	-8.6	-5.4

** External equilibrium of Hungary estimated on the basis of the financial account. Current account balance in the case of the other countries.*
Sources: BOPSY 1998–2002, IFS March 2003.

VII. Articles

VII. 1 Risk management at banking groups in the Hungarian banking system

By Éva Fischer and Lívia Sánta

INTRODUCTION

The objective of this study[104] is to measure to what extent the activities of the individual members of banking groups and intragroup transactions increase the level of risk in the entire group, in addition to banking risk. The study also presents an overview of the current state of group-level risk measurement and management, taking into consideration that the rules and regulations governing group risk are not complete, and in some cases are ambiguous.[105] This is also the first attempt to repeat a survey of a type of risk that has already been analysed by the Bank's staff in the past.

The topical nature and importance of this subject is underlined by several factors. According to the previous investigation, investment firms were the members of banking groups with the highest risk. Whereas the 1998 capital market crisis and certain regulatory changes led to a dramatic decline in the number of investment firms, many newly established members have been added to the banking groups. In addition to launching new activities, the business operations of certain group members have grown substantially recently. The level and professional quality of group risk management found in 1998–1999 was insufficient: corporate governance and internal controls did not function effectively and group-level risk management was only practised at a few banks.

This study was prepared on the basis of survey questionnaires sent out to banks with group activities, and reflects the situation as of the end of 2002. A total of eleven banking groups[106] were surveyed, whereas insurance groups[107] were not included. The study focused on parent credit institutions which are registered in Hungary and the group members under their control. The survey covered entities[108] which have a major influence on the stability of the financial intermediary system. A banking group has been defined as a cluster of businesses in which a credit institution controls at least one participant in the banking, investment, finance and insurance sectors. Investment funds controlled by parent banks will also be considered in the analysis of group risk and internal transactions. However, non-core businesses with purely operational functions, and financial enterprises offering no actual financial services were excluded from the investigation.[109] Similarly, the study did not cover investment firms which merged with their parent banks as recently as 2003, or pension funds as these are neither owned by the banks, nor controlled by them through other means.

THE ROLE AND STRUCTURE OF BANKING GROUPS IN HUNGARY

A total of 11 participants in the Hungarian banking system control at least one entity in the banking, investment, financial and insurance sectors. These 11 credit institutions represent 80% of the entire sector.

In the majority of the group members, the controlling credit institution possesses more than 20% of all the votes or shares, while the parent bank exercises considerable control without capital connection[110] over five group members.

[104] This paper is part of a series of studies in which the MNB attempts to identify and monitor potential and existing risks emerging in the Hungarian banking system.

[105] These deficiencies are remedied by the amendments expected to come into effect in 2004. For a detailed discussion of this matter, see the summary entitled 'Consolidation regulations pertaining to financial groups in the light of the relevant amendments adopted in spring 2003' in this publication.

[106] Budapest Bank, CIB, Citibank, Erste, HVB, K&H, MKB, OTP, Postabank, Raiffeisen and Volksbank.

[107] The role and importance of insurance groups in the financial intermediary system are significant only as far as they incorporate insurance companies or pension funds. However, as their market positions among credit institutions, investment or financial firms are negligible, they have not been included in the analysis.

[108] In defining groups, the concept of control shifts was relied on as introduced by the Act on Credit Institutions and Financial Enterprises (CIFE), due to be amended in 2004, which stipulates that from the point of view of consolidated supervision, the definition of control also includes cases when, despite the lack of capital connections, a legal entity assumes considerable control over another business. Therefore, in addition to parent credit institutions, the survey also encompassed credit institutions, investment firms, financial enterprises, insurance companies and investment funds in which the parent institution has an ownership of over 20%, or on whose operations it has considerable control by other means. Following the amendment of the CIFE, Hungarian Financial Supervisory Authority (HFSA) will judge, on a case-by-case basis, whether considerable control has been established, which will not necessarily correspond to the analysis presented in this paper.

[109] For example, financial firms in charge of running or leasing the bank's headquarters or branches, or companies with activities not directly linked to that of the banking group (e.g. GIRO Rt.).

[110] Considerable control may be maintained through governing bodies such as the Board of Directors or the Supervisory Board, decision-making competence (e.g. beyond a certain limit amount, loan approval is granted by the bank), performance contract, or marketing agreement.

With the exception of one banking group, the surveyed entities consist of financial intermediaries which are domiciled in Hungary. Non-resident financial intermediaries (one credit institution and three financial enterprises) account for 1.3% of the balance sheet total. One group is considering the establishment or acquisition of several foreign subsidiaries.[111] While expansion, acquisitions and privatisation in the Central and Eastern European region remain prominent items on the agendas of foreign parent banks, they do not tend to carry out these plans through their Hungarian subsidiaries.

The overwhelming dominance of the controlling banks is clearly illustrated by the fact that they account for 87.8% of the balance sheet total of the banking groups.

Most of the parent credit institutions are surrounded by financial enterprises. In addition to the benefits of regulatory disparities (e.g. VAT refunding), banks' involvement in the establishment or acquisition of leasing or automobile financing operations was primarily driven by the need for increasing diversification and higher group profitability. In terms of balance sheet total, bank-backed financial enterprises accounted for 68% of all financial enterprises in Hungary as of end-2002. One of the strategic goals at all of the banking groups is to increase lending by financial enterprises. More dynamic growth of 15–35% is forecasted in automobile loans for 2003, while an increase of 10–15% is expected in asset and property leasing. Due to the increasing need for the replacement of out-dated vehicle fleets in areas outside Budapest, Hungarian companies expect further growth in demand, despite their outstanding performance in 2002 in terms of automobile loans and leasing.

Two of the banking groups incorporate credit institutions other than the parent bank (mortgage banks, banks involved in automobile financing, building societies and foreign subsidiaries). Since banks currently estimate that high demand for mortgage loans for home purchases is likely to continue, they plan to boost their mortgage banks' business activities in the near future.

As of end-2002, bank-backed insurance companies accounted for a market share of 8.4% in terms of the balance sheet total. Of the surveyed bank-backed insurance companies, the activity of one was assessed to be significant (7.9%), while the market share of the other two was practically negligible. The increasing sophistication of insurance culture and the higher financial status of households will generate substantially higher per capita revenues from life insurance premium, and, as a result, bank-backed insurance companies will assume greater role within banking groups.

The low share of investment firms can be explained by the fact that, as a result of some changes in legislation, which opened up the opportunity of conducting universal banking activities, over the last few years banking groups have sought to enhance their efficiency by merging a large number of investment firms into the parent banks. Nevertheless, in terms of balance sheet total, the share of bank-backed investment firms in the brokerage sector is still three times higher than that of the independent players. At present, parent credit institutions with investment firms do not plan to merge their subsidiaries into banks.

GOVERNANCE OF BANKING GROUPS FROM THE POINT OF VIEW OF STABILITY

In analysing group governance three main issues were focussed on. First of all, the degree of indirect ownership within the various banking groups was studied. Then, an analysis was carried out of the degree of con-

Table VII-1 **Structure of banking groups at end-2002**

	Balance sheet total (HUF billions)	Distribution (per cent)	Number
Parent credit institutions	8 083	87.8%	11
Financial enterprises	516	5.6%	29
Other credit institutions	457	5.0%	5
Insurance companies	86	0.9%	3
Investment firms	47	0.5%	4
Investment funds	16	0.2%	9
Total	**9 204**	**100.0%**	**61**
of which non-residents	121	1.3%	4

[111] As the group in question has no foreign owner, to expand in terms of size as well as the range of activity, it has become a key player in acquisitions in the Central and Eastern European region.

trol parent credit institutions exercise over the rest of the group and to what extent they curtail or influence member activity. Finally, an assessment was made of the likelihood of reputation contagion, which arises primarily from the fact that members appear and promote themselves on the market as a sort of 'shopping mall' offering a comprehensive range of financial and banking services.

Level of indirect ownership

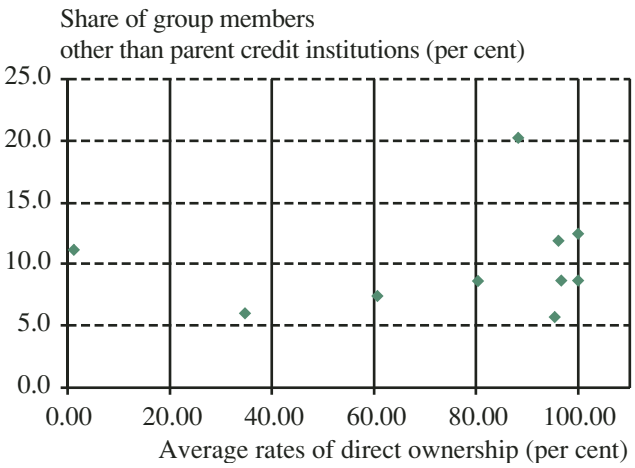
The transparency of banking groups was examined from two aspects. First, the level of indirect ownership within the groups was surveyed.[112] To be able to determine that, the weighted ratio of the direct shareholding of parent credit institutions in individual members to the members' balance sheet total was examined. Then, a calculation was made for the share of the non-parent bank members' balance sheet total within the entire group, which, in turn, helped in drawing conclusions about the share of group members other than the credit institution.

Banking groups with a large number of increasingly active non-parent bank members, and a high level of indirect ownership, are less likely to be transparent. No significant risk is incurred if, for instance, a group displays a high level of indirect ownership, yet only has a few member, which are not extremely active.

Based on the two aspects referred to earlier, the ten surveyed banking groups were arranged in Chart VII-1.[113]

There were only three cases in which the parent banks' average direct ownership in the group members was below 75%. The high level of direct ownership can be attributed to the fact that at Hungarian banking groups

Chart VII-1 **Transparency of banking groups**



indirect ownership does not extend beyond financial enterprises or investment funds. The parent credit institutions enjoy a direct ownership of at least 99% in insurance companies, credit institutions and investment firms.

At most banking groups, members other than the parent bank represent a share of 5–10% in terms of balance sheet total, whereas in four groups their share is over 10%.

Based on the survey, group transparency was evaluated as follows:[114]

It was felt that in two banking groups risk stemming from indirect ownership is high. In these groups the non-parent bank members account for a considerable share of business activity, and consequently, the average direct ownership of less than 50% results in a low level of transparency.

Table VII-2 **Rating of the transparency of banking groups**

		Extent of direct ownership		
		<50%	**50–75%**	**>75%**
Share of group members other than parent credit institutions	>10%	Low transparency (1)	Low transparency (0)	Moderately transparent (3)
	5–10%	Low transparency (1)	Moderately transparent (1)	Transparent (4)
	<5%	Moderately transparent (0)	Transparent (0)	Transparent (0)

[112] In calculating the level of indirect ownership, only those members were included in the survey, which are owned by the controlling credit institutions.
[113] One group was excluded from this survey, since the parent credit institution has neither direct, nor indirect share in members other than the parent credit institution (it is the sister company of the parent banks).
[114] The number of relevant banking groups are indicated in brackets.

Risk arising from the high level of indirect ownership may be offset by parent credit institutions if they have direct control over the operations and risk-taking practices of the indirectly-owned group members, as well as a broad overview of the members' operations and exposure to risk.

Control by parent credit institutions

The degree of group members' independence is determined by the extent parent banks intervene in matters related to the members' operational management. Exceptionally strong control, characterised by the parent bank's involvement in (all or specific) operational decisions, was found at three banking groups.

Seven credit institutions exercised control by the owner (over the entire group, or in two cases over some of the members) through members of the Board of Directors or the Supervisory Board.

Control is also exercised when the bank reserves the right to make decisions on or approve issues of strategic importance. The parent credit institutions at four banking groups have a final say in shaping their members' business strategy, which is essentially equivalent to group-level strategic planning and policy-making, while in two other groups the controlling credit institutions enjoy the right of approval in matters related to members' strategy. Nearly all parent banks reserve the right to make decisions on or approve issues such as product development, information technology or investment. Sometimes a group member may only launch a new product if it meets the profitability targets laid down by the parent credit institution.

The creation of an efficient group-wide system of internal control is one of the parent banks' key priorities in mitigating risk, as it offers an opportunity to monitor and evaluate the members' internal operations on a regular basis. Such systems help identify processes which involve large risks, or which require restructuring, changes in regulations, or an effort to ensure compliance with the existing ones. At eight of the 11 banking groups surveyed, the bank's internal controls function regularly, evaluating the subsidiaries usually on an annual basis. The frequency of the audit is determined by a set timetable determined by the results shown by the risk-assessment model. In addition, at four banking groups the bank's risk management department monitors the group members' risk management practices. In the case of one group, member evaluation by internal control is carried out only on a case-by-case basis, whereas at another group, neither the internal controls nor the risk management department supervise the members' risk management practices.

The conclusion can be drawn that although at the majority of banking groups members' independence is guaranteed to a certain extent, all the parent credit institutions exercise some kind of control over the key activities of their members.

With the exception of one group, the level of the parent banks' control over the group members' risk assessment practices was found to be satisfactory. At the one group mentioned as an exception, the low level of owner control is clearly reflected by the fact that the parent bank does not send delegates to the group members' Board of Directors or Supervisory Board, and its internal controls do not monitor the procedures of the group members.

Risk of reputation contagion within the banking groups

In order to meet customers' needs, credit institutions go out of their way to offer a full range of products. As a part of that policy, they link up the services provided by the group members, or market them together with their own products. Some banking groups, though less frequently, derive greater benefit from cross-selling, the non-parent bank members, sell the bank's or each other's products.

Members pursuing a customer-oriented marketing policy sometimes create a uniform marketing strategy which is based on the same principles, or centralises all marketing activity at one of the members.

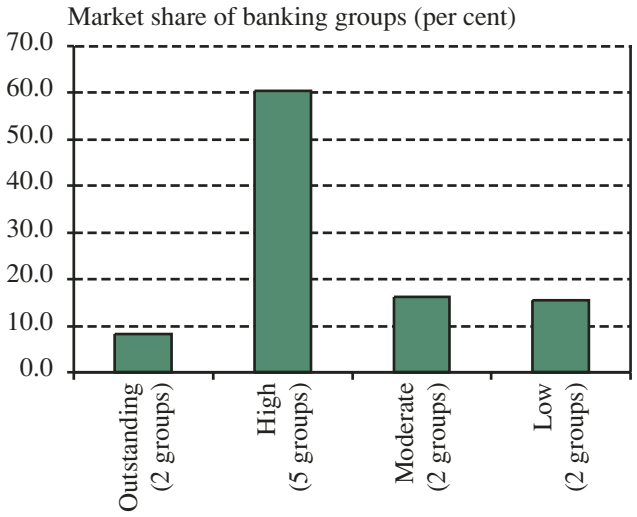
By making use of or merging existing sales networks, group members reduce unit selling costs. Furthermore, co-operation between group members (e.g. joint use of name, cross-selling) often leads to higher sales figures and an increased market share.

However, offering complex services to clients can have its down side too. Due to intense cross-selling, joint marketing and name-use, group members are increasingly exposed to the risk of reputation contagion. A lack of financial stability at a single member can have, in addition to the financial losses incurred, a detrimental effect on the entire group. If clients regard the group members as a single entity, the adverse effects of failing confidence in one member may easily spread to the rest of the group. A further risk factor is that a rise in the likelihood of contagion is often coupled with an increasingly strong urge to save the group member which is experiencing difficulties. From the perspective of the controlling parent credit institution, risk exposure caused by reputation contagion can be managed by implementing stronger control over the group members, curbing members' risk-taking, and ensuring adequate management of those risks.

Only estimates can be given of the risk of reputation contagion. In an attempt to make such an estimate,

three questions where taken into account: (i) to what extent is joint name-use a common practice; (ii) to what extent do group members' share their distribution channels (cross-selling); and (iii) to what extent are the marketing operations centralised and of a uniform nature.[115] Based on estimates of reputation contagion risk, the banking group were classified into four categories.[116] The following chart illustrates the share of groups classified into these categories within the banking groups analysed.

Chart VII-2 **Level of reputation contagion risk**



The risk of reputation contagion within a banking group was assessed to be outstanding or high at banking groups with an aggregate market share of almost 70%. Hence, the necessity for parent banks to maintain strong control over their members, and to create or improve group-level risk management capabilities seems inescapable.

INTRA-GROUP TRANSACTIONS AND EXPOSURES[117]

Intra-group transactions play a key role in evaluating the financial stability of banking groups. Such transactions can result in a stronger reliance on synergies between the members and can also contribute to costs optimisation, or profit maximisation. Moreover, they are likely to improve the quality of risk management and lead to firmer control of equity investment and refinanced institutions.

On the other hand, higher exposure will result in a higher likelihood of reputation contagion, which will delay the recovery of entities facing bankruptcy. Supervisory authorities are responsible for identifying and monitoring transactions which undermine a group's financial stability.[118] It is, for instance, of utmost importance that supervisory authorities identify transactions (and assess or estimate the resulting risks) which are bound to increase contagion within the group, or take advantage of regulatory arbitrage. The majority of supervisory authorities require transactions between groups to be conducted only under market or other conditions which will produce no adverse effect on the rest of the group.

Distribution of intra-group risk

Risk-taking vis-à-vis other group members by entities other than the parent bank was characteristic of only three of the banking groups surveyed.[119] By comparing these members risk-taking with that of the parent bank[120] (2.1%, 1.8%, 2.5%), it can be stated that at Hungarian banking groups the overwhelming majority of internal risks are taken by the parent credit institutions vis-à-vis other group members. Risk-taking by members outside the controlling credit institution does not even amount to 5% of their balance sheet total.

Risk-taking by the parent bank vis-à-vis other group members[121] was assessed to be substantial (>10%) in five cases, moderate in three cases (5–10%), while in three cases it was found to be negligible compared to the parent bank's total risk-taking.

The relatively high exposure to financial enterprises can be explained by the fact that parent credit institutions have a tendency to merely refinance the business activities of the leasing companies in the group. Outstanding loans account for 79% of risk-taking vis-à-vis financial enterprises, while 19% outstanding debts arise from keeping lines of credit available. By refinancing the leasing companies, the parent credit institution assumes practically all of the lending risk. Therefore, it is crucial that the credit institution regularly monitor or minimise financial enterprises' exposure to risk through some means (e.g. the method of refinancing can minimise the market risk taken by the leasing company, which, in turn, is borne by the parent bank).

[115] Where varying statements were made of group members, they were weighted by their share within the group.
[116] Outstanding (high risk according to all three factors); High (high according to at least two factors, and average according to one); Moderate (high based on one factor, and at least average based on one); Low.
[117] Based on the Basle Committee's guidelines on intra-group transactions and exposures between group members. (Joint Forum, 1999.)
[118] The Basle Committee's guidelines state that surveillance authorities are responsible for monitoring transactions between groups, which may even involve the requirement of regular reporting.
[119] Risk-taking of group members other than the credit institution vis-à-vis other group members was also part of the survey. Thus, for the first time, reliable data is available on these members' current intra-group receivables, or off-balance sheet intra-group liabilities.
[120] Risk-taking stemming from ownership were disregarded this time, for these (risk related to indirect ownership) have been covered in the previous subsection.
[121] The ratio employed was the following: the proportion of the net value risk-taking by the parent bank against other group members to aggregate net value of risk-taking as of end-2002. (Securities, lending and other claims, equity holdings, contingent and future liabilities, weighted value of forward contracts, trading book counterparty and position risk.)

Table VII-3 **Distribution of risk-taking by parent credit institutions vis-à-vis other group members by type of entity**

	Net value of risk taking (HUF billions)	of which: equity investments (HUF billions)	Distribution (per cent)
Credit institutions	192.2	27.1	23%
Insurance companies	7.9	7.5	1%
Investment firms	42.5	5.7	5%
Financial enterprises	580.7	9.6	69%
Investment funds	7.8	2.1	1%
Total	**831.2**	**51.9**	**100%**

Risk-taking against credit institutions (with the exception of ownership shares) is composed almost entirely of claims on mortgage banks, some of which are outstanding loans (15%), but which are mostly claims related to securities (72%). The high share of claims related to securities is due to the fact that parent credit institutions themselves subscribed some of the debenture bonds issued by their mortgage banks.

Some 67% of all risk-taking vis-à-vis investment firms stems from available lines of credit, while 21% comes from outstanding loans, clearly indicating that parent credit institutions at banking groups are eager to support investment firms' short-term liquidity management.

One single banking group was responsible for the vast majority of risk-taking vis-à-vis investment funds. At this group the investment fund manager guaranteed the principal and yield on the fund(s), managed by it which was then re-guaranteed by the parent credit institution.[122]

At Hungarian banking groups the level of risk-taking by group members other than the parent bank against each other is at a bare minimum. The majority of risks, which derive to a great extent from refinancing financial enterprises, are taken by the parent credit institutions.

Services provided to other group members

Group members (at eight banking groups) display a marked tendency to use each others' services. At one group decisions on whether members should take advantage of services offered by other group members are made on the basis of potential costs and fees, while at another members prefer services offered by the foreign owner to those provided by the other group members.

At six groups, members offer their services to each other at market prices, while in three cases members sign bilateral agreements if they wish to use each other's services. The members of only one banking group offer their services below market prices, yet these are still provided at rates higher than their own costs. *All in all, members do not incur losses on offering their services to other members within the group.*

Transferring customer receivables to other group members

As part of the survey, an analysis was also conducted of what kind of outstanding loans were transferred within banking groups in 2002. At credit institutions these were either overdue and written-off claims transferred by the credit institution to financial enterprises dealing with collecting such payments, or bad loans sold to or recovered from mortgage banks.[123]

With regard to these transfers, it should be noted that by providing buy-back guarantees the parent credit institution takes full risk for the loans recorded by the mortgage bank in its balance sheet, thus, *transferring loans to the mortgage bank or recovering non-performing ones are technical transactions which are not equivalent to an actual transfer of risks.*

REGULATORY ARBITRAGE STEMMING FROM EXISTING REGULATIONS

From the existing regulations pertaining to the financial intermediary system it is quite clear that regulatory arbitrage is relevant primarily to financial enterprises, investment firms and insurance companies. At banking groups, if member activity and intra-group transactions are taken into consideration, it is found that of the three

[122] The Capital Market Act stipulates that the portfolio manager may only guarantee returns if it guarantees the preservation of the principle, for which bank guarantee must be provided. Most credit institutions follow the current practise of providing direct equity and yield guarantee for investment notes issued by the funds.

[123] The parent credit institution provided buy-back guarantee for its mortgage bank's housing loans in case they become classified.

kinds of entities, regulations contribute to higher risks only in the case of financial enterprises.

The major elements of regulatory arbitrage in financial enterprises are the following:

Banks do not have to introduce a large exposure limit for lending to financial enterprises as long as they are subject to consolidated supervision. As a result, banks may provide loans to their financial enterprises with no limit imposed on them. Unlike banks' lending, lending by financial enterprises is not curtailed by large exposure limit, nor do they have to comply with the 8% CAR rule.

Financial enterprises also have to classify their outstanding loans, and, based on the classification, they must account for loss, the rate of which is set only for credit institutions. Relevant tax regulations do not encourage financial enterprises to account losses corresponding to the level of risk, since only a small portion of that amount (a maximum of 2% of the market costs for a default of 90-180 days, 5% for a default of 181-360 days, and 25% for a default of over 360 days) may be deducted from the tax base. Credit institutions, on the other hand, may offset provisions against pre-tax profits.

Due to gaps in the existing group-level regulations, risks faced by banks and financial institutions may be reduced only through the introduction of the banks' own group-level regulations, internal limits and group-level risk management practices.[123]

Regulatory arbitrage in insurance companies

Despite the general provisions of the Insurance Act, there are no regulations imposing limitations on investing insurance reserves tied to unit-linked items, which provides insurance companies with a considerable competitive advantage over investment funds (though investment funds' policies have grown more liberal due to the recent amendments to the regulations). Nevertheless, this does not increase investment risk for the insurance companies, and, thus, for the group as a whole, as it is the client who takes the full risk, similar to the case of mutual funds shares.

Regulatory arbitrage within a banking group may occur primarily because of the varying limits established for risk-taking. Limits on large exposure, investment and property acquisition, determined in proportion to an entity's regulatory capital, do not apply to insurance companies; instead, all limits to diversified investment are set in proportion to the company's technical reserves. No capital requirement is imposed on the levels of risk-taking and investment which are higher than the company's technical reserves. Therefore, in some cases transferring some risk-taking activities to insurance companies may prove to be more beneficial. *Another way of reducing group-level risk is to involve insurance companies which take substantial risks in relatively small banking groups in consolidated risk assessment and management.*[125]

Differing regulations for investment firms and banks

The open position limit set for banks at 30% of their regulatory capital does not apply to investment firms. However, this rule does not act as a curb on their foreign exchange operations. In addition, existing regulations stipulate that the exchange rate risk of investment firms' foreign exchange positions must be covered with capital. *To sum up, these regulatory differences do not result in increased risk at banking group-level.*

RISKS

The following methodology was applied in evaluating the level of credit risks, market risks, liquidity risks and operational risks within the banking groups: The first step was to determine which types of risk were relevant for which members of the group, based on their activities. After this, with the use of a risk matrix, the extent of non-parent bank members' exposure to risk was analysed for each banking group, along with the professional quality of the group-level risk management related to each type of risk. Based on these two factors, a final evaluation of the magnitude of risks present in the individual banking groups was made.[126]

CREDIT RISK

Extent of credit risk exposure

Of the risks occurring at the group-level, credit risk can be considered the most significant type of risk, due to the main types of activities resulting from the composition of the groups' members and regulatory arbitrage stemming from the current regulations. In respect of the members of a banking group, investigation of this type

[124] It is worth noting that the HFSA has issued methodological guidelines to set uniform standards for group governance and risk management at banking groups.

[125] Given the fact that the various forms of securitisation which are readily applied on the international markets, have not yet become established in Hungary, and that no insurance company has been issued a licence by the HFSA authorising it to provide mortgage loans, and, finally, that policy loans may be provided up to cash surrender value, including insurance companies in group-level credit risk measurement is wholly irrelevant.

[126] Due to space restrictions, in respect of the evaluation risks this study contains an abbreviated discussion, highlighting only the banking practices and groups which carry higher risks and/or apply less high quality consolidated risk management procedures.

of risk is currently relevant for credit institutions and financial enterprises, based on their activities.

Credit institutions

The risks arising from the activities of mortgage banks are not considered to be extremely high.[127] In addition, it is the parent banks that bear the risk due to the lending method, or aggregate lending by such banks is low within the banking group. Consequently, these members do not add significantly to the credit risks of banking groups. The lending activities of building societies are restricted by legal regulations, and the total amount of lending they account for with the groups is minimal; therefore these activities do not lead to significant risk.

The risks borne by subsidiary banks involved in automobile financing are similar to those related to financial enterprises conducting the same activity, with the important distinction that more stringent prudential regulations apply to the lending activities of such credit institutions, in terms of loan classification, valuation of collateral, accounting of losses and ensuring 8% CAR. The activities of this kind of subsidiary banks hence require more strict monitoring by the owners, as the standards for extending loans and credits can often grow lax due to the increasingly keen competition in this market segment.

Expansion of a banking group by acquisition of banks carries significant potential risks. Even with exceedingly thorough due diligence and the provision of guarantees, a bank's portfolio may contain unknown risks and potential losses. Hence, in such cases, it is especially important that the owners exercise adequate control, implement risk evaluation and management systems which comply with those of the parent bank and continuously monitor the subsidiary bank's loan portfolio.

Financial enterprises

All of the 11 banking groups surveyed include financial enterprises, whose activities and business growth has evolved very dynamically in recent years. As a result of regulatory arbitrage and prudential regulations which are less strict that those applied in banks, the activities of financial enterprises can lead to an increase the level of group-wide risk. Consequently, the activities of these group members were examined in detail, with particular attention as to whether group-level lending risk management practices were applied in the individual banking groups, in the absence of pertinent legal regulations.

Recent growth in lending by financial enterprises has been very strong. On average, their activities increased by 59% in 2002, whereas the controlling banks in the groups saw average growth of 13% in aggregate lending.

The credit risk exposure of financial enterprises was analysed according to the following aspects *(see Table VII-4)*.

With the exception of two banking groups, due to the current opportunities for regulatory arbitrage, the risk exposure of financial enterprises is considered high in all of the banking groups, taking into account volume of lending, the rate of growth and the ratio compared to bank lending.

As of end-2002, the lending portfolio showed the following breakdown, in terms of household lending and corporate lending:

Table VII-4 **Credit risk exposure of financial enterprises**

Number of banking groups	More than 10% market share in lending	Stronger growth than bank lending	More than 10% ratio compared to bank lending	Risk exposure
1	X	X	X	High
3	X		X	High
1		X	X	High
2			X	High
1		X		High
1	X			High
2				Low

[127] Mortgage credit does not generate significant credit risks. Although households' increasing indebtedness and their relatively weak ability to service debts carry some risks, the interest burden is relatively low, due to state subsidy. In addition, mortgage banks generally extend loans up to 40%–50% of the value of collateral, i.e. collateral assets are adequate; and the risks of a potential property market bubble also does not currently carry significant risks.

Table VII-5 **Distribution of portfolios at end-2002**

Number of banking groups	Household	Corporate
2	66–76%	6–35%
5	45–65%	36–52%
4	0–44%	53–100%
Average[128]	**56%**	**40%**

Some 40% of lending by leasing companies is to enterprises, in particular to small and medium-sized enterprises (SMEs). As lending by financial enterprises is not restricted by large exposure limits, it can lead to an increase in risk if such lending is strongly concentrated and claims on one borrower or group of borrowers are quite significant. Such risk can be relevant for financial enterprises which lend primarily to the corporate sector, but where no internal limit on group-wide aggregate lending has been established. These risks can be mitigated if the bank sets a limit on the companies' lending or reserves the right to approve credits above a certain limit at the bank itself.

Automobile financing accounts for 86% of lending by financial enterprises, whereas property leasing and factoring constitute a mere 2.5% of total outstanding loans. As a result of the lower interest rates applied for FX-denominated loans, some 81% of such loans are extended in FX-based constructions. Essentially, the borrowers bear the exchange rate risk associated with such constructions, and the impact of this is marginal on financial enterprises' lending risk, consisting mainly of the increased possibility of default.

Measurement and management of credit risks

The strength of control by the owners, the limit system restricting lending risk exposure for Hungarian banking groups, regular reports and inquiries regarding the group's portfolio and risk exposure are fundamental factors influencing the level of development of group-wide risk management practices in Hungary.

In addition to controls by the owners, *the risk awareness of domestic banks* is highlighted by the facts that despite gaps in the regulations, *seven of the 11 banking groups surveyed employ limits to restrict group-level risk exposure*. The limit applied is either the large exposure limit set forth in the Act on Credit Institutions and Financial Enterprises or an internal limit defined according to special aspects and is sometimes even more strict than that stipulated by the legal regulations.

The level of IT support has an important impact on the system and intervals applied in monitoring compliance with limits. At banks where a standardised, group-wide IT platform has been installed, exposures to particular borrower or groups of borrowers is monitored on a daily or a monthly basis. When an IT support system is lacking, in most cases the banks add the lending of leasing companies to certain borrowers or groups of borrowers to the bank's figures for the same group(s) on a quarterly basis.

When the large exposure limit is monitored, naturally only the amount by which the limit is exceeded is deducted from the bank's regulatory capital, due to the shortcomings in the relevant legal regulations. All of the banks, with the exception of one, have rules in place which govern approaching, reaching and exceeding the limits. In practice, the range of responses is wide: in the majority of cases, when the limit is exceeded the appropriate decision-making bodies must be informed, along with an explanation of the grounds and proposals for resolution of the situation. As a result, either the limit is increased, or as happens in most cases, measures are taken to decrease or sell off outstanding loans, or to draw on collateral.

The four banks which do not apply risk management practices at the group level are at different stages of development in terms of their regulations and their plans for development. One of them already has adequate regulations and procedures in place. The other three banks are only beginning to develop and formulate their respective risk management systems as the legal regulations become clear.

Guidance of risk management at the group level and the application of uniform principles in lending to group members.

In the majority of cases, guidance of the risk management practices of credit institutions and financial enterprises is the responsibility of the director in charge of managing lending risk, or in cases where risk management is conducted separately for each target group, e.g. for household, corporate or SME lending, guidance of the group member's risk management for the specific activity is conducted separately according to the bank's system. In order to reduce risks, all but three of the banks have centralised lending decisions of their subsidiary banks above a certain limit amount.

For the major market players, the level of risk management is adequate for a banking group in respect of managing lending risks. This is ensured by the application of procedures based on uniform principles in

[128] The remaining 4% is accounted for by lending to other customers.

terms of rating, accounting of losses and appraisal of collateral, and by taking a suitably prudent perspective (similar to that of banks) to counterbalance any regulatory arbitrage.

In general, it can be stated that uniform principles are applied at the group level in terms of managing lending risk, including borrower rating, appraisal of collateral and rating the transaction. In addition to developing uniform principles, naturally the special characteristics of the individual activities are also taken into account. Credit institutions generally employ a cash-flow approach, while financial enterprises apply asset-based financing.

Risks increase when significant growth in lending is not accompanied by prudent rating of borrowers, appraisal of collateral and accounting of losses, all of which must be performed in line with the special aspects of the particular loans in question. As there are no binding regulations stipulating the amount of provision which must be applied for financial enterprises, the director in charge of risk management at the parent bank bears a great deal of responsibility in the interest of ensuring suitably prudent behaviour. At all but one bank all financial enterprises accounted for provision in value when rating the portfolio, even though there are no binding regulations on the amount of such write-offs. At banks and their financial enterprises the average provision cover for portfolio loss was 2%, but the data falls in a wide range for both enterprises and banks, and are naturally related to the composition of the portfolio. *It is worthy of note that financial enterprises tend to account for higher provision on average than allowed for by regulations on their pre-tax profits. Hence, in terms of accounting for provision in value, the risk management practices of most financial enterprises is considered adequate.*

Regularity and scope of information on lending by group members

The control exercised by the parent bank, the frequency and flow of information available on group members' portfolios and risks into management information systems essentially depends on how advanced the banking group's IT systems are and the level of group-wide risk management.

The requirement for assessment of consolidated large exposure and data disclosure scheduled to enter into force on 1 January 2004 will make it necessary for many banking groups to further develop their IT systems and to reform the data disclosure procedures within the group.[129]

Despite the fact that four of the 11 banking groups do not monitor or restrict the aggregate lending risk of group members, based on the structure of lending by financial enterprises (household and SME lending), the vast majority of loans are not concentrated in one or two borrowers or groups of borrowers. At three of these four groups, the activity of the financial enterprises is relatively low and thus does not significantly these groups' overall level of exposure to the risk of concentration.

It should be noted that in spite of the deficiencies in the prevailing legal regulations, the professional level of risk management is high at six of the banking groups.

Evaluation of risks

Based on the level of risk exposure, quality of risk management and lack of large exposure limits, it can be stated that credit risk at one of the banking groups is indeed high. At this particular banking group, the financial enterprise is quite active, in addition to the risks borne by the individual credit institutions. Nevertheless, the risks associ-

Table VII-6 **The risk management of banking groups can be qualified according to the following aspects:**

Number of banking groups	Owner does not request reports or specify a group limit for the portfolio	Bank does not apply a group limit	Bank does not restrict lending by subsidiaries with a limit or centralised lending decisions	Inadequate information available on lending by group members	Managing concentration of risks, and the quality of risk management
6					High
1			X		Intermediate
2		X	X	X	Low
2	X	X		X	Low

[129] Currently several banks compile the base data for checking the group's large risk exposure manually, and semi-automatically, using Excel tables.

ated with the financial enterprise are mitigated by the fact that 76% of this quite large stock of aggregate loans is related to household borrowing, and thus does not contribute to a strong concentration of lending.

Based on the results of the survey, it can be seen that the regulatory arbitrage related to financial enterprises and the shortcomings in the regulations governing consolidated risk management have not led to a major increase in risk at the banking groups. The majority of the banks have behaved in a prudent manner in respect of guidance and risk management at their subsidiaries. Based on all of these factors, the activities of these subsidiaries do not significantly increase the large risk exposure of banks to enterprises.[130]

Nonetheless, the regulations on consolidated data disclosure and compliance with group-wide requirements such as measurement of consolidated large exposure which are scheduled to enter into effect from 2004 will solve the problems currently stemming from regulatory arbitrage. Compliance with a group-level large exposure limit, coverage from the regulatory capital for any cases when the limit is exceeded and calculation of CAR at the group level will require the development of considerably more modern registration systems and IT support at several banking groups.

Consolidated measurement of the portfolios of banks and financial enterprises based on the regulations stipulated by Basle II is likely to lead to a reduction in the current consolidated capital requirements. This is because, according to the new Basle requirements, the exposure of financial enterprises to risks from lending to households and SMEs is expected to be classified into a lower risk category.[130]

MARKET RISKS

Level of risk exposure

The analysis of market risk in banking groups in Hungary focused on the question as to which members of the banking groups carried significant market risk.

Based on this, it can be established that the credit institution in one banking group assumes a significant amount of interest rate risk as compared to the size of its group.

On the basis of the capital requirements of the positions listed in the trading books of investment firms, an examination was made of the extent of market risk assumed by certain investment firms and how this risk stood in relation to the risk-taking in the trading books of credit institutions. Based on the amount of capital requirement determined for covering losses incurred due to market risk and the ratio of such capital to the regulatory capital, it was found that, compared to their own size and the positions stated in the trading books of credit institutions, two investment firms assumed considerable market risk in the course of their trading on own account. Considering that the regulatory capital offers a cover of 8% and 19%[132] of the capital requirements for the market risks assumed in the trading books of the investment firms,[133] barring any extreme conditions on the market, it is thought that this amount of market risk does not endanger the stability of the banking group as a whole.

No direct data is available on the extent of market risks (i.e. exchange rate and interest rate risks) taken by financial enterprises. Nevertheless, as the leasing companies of all but one[134] of the banking groups are refinanced by the parent credit institution, based on the ratio of lending by the leasing companies within the group (cf. lending risk) and the method of refinancing employed by the parent bank, conclusions can be drawn as to the extent of the market risk taken by the financial enterprises. If the ratio of a leasing company's loans is not significant or the refinancing loan corresponds to the foreign currency and interest rate conditions of the loan extended by the leasing company, the market risk borne by the leasing company is not considered to be relevant.

The general practice is that the bank extends the refinancing loan denominated in the same foreign currency as the original loan extended by the leasing company.[135] For leasing companies with refinancing of this nature the exchange rate risk is non-existent or minimal.[136] At the same time, it should be noted that some of the leasing companies also hedge this minimal open

[130] The amount of capital necessary for covering group-level risks and the group-level capital adequacy ratio cannot be calculated with an acceptable degree of confidence due to the lack of the necessary information and data.
[131] According to experience of impact studies, more advanced methods in comparison with the standard method, based on internal rating, will also yield the same results.
[132] Based on available data for the end of 2002 Q2, Q3 and Q4.
[133] Capital requirement for the trading book, excluding capital requirements for counterparty risk and large exposure.
[134] At the banking group mentioned here as an exception, the group members also include financial enterprises operating not only with refinancing by the parent credit institution, but the market risk exposure of these companies is deemed to be minimal due to their low level of aggregate lending. Consequently, this investigation is restricted solely to leasing companies with substantial lending portfolios.
[135] FX-based loans and loans extended in foreign currency are treated together here.
[136] A minimal on balance sheet open position can arise partially because the time of invoicing and performance by the customer, and performance by the customer and repayment of the refinancing loan can be different. Furthermore, at several banks it is regular practice that several loans are financing by the bank (in 'packages'), and hence the leasing companies bear the risk for the period of time between conclusion of the contract and the refinancing (usually 15 days).

Table VII-7 **Exchange rate and interest rate risk exposure of leasing companies in banking groups**

Number of banking groups	Weighting of lending by leasing companies	Refinancing in corresponding foreign currency	Refinancing with corresponding interest rate conditions	Insignificant market risk for the leasing company
2	Insignificant			Yes
7	Significant	Yes	Yes	Yes
2	Significant	Yes	No	No

balance sheet position with futures transactions. At two of the banking groups the interest rate on the refinancing loan is not adjusted to the interest conditions on the loans extended by the leasing company, as a result of which a certain amount of interest rate risk can emerge for the leasing companies. Based on the interest rate sensitivity indictors, the extent of this risk is not significant compared to the group's total risk-taking.

The amount of market risk borne by the life insurance companies involved in the survey was found to be low. With respect to these companies, those conducting significant business activities as compared to the size of the group do not assume any exchange rate risk and the level of exposure associated with share prices and interest rates is also minimal,[137] in light of the structure of their portfolios (over 75% share of government bonds).

One banking group was found where the market risk exposure of one of the non-parent bank credit institutions certainly justified the application of market risk assessment and management at the group level. Furthermore, there are another four banking groups where the member investment firms and financial enterprises assume significant market risk as compared to their size; even so, the extent of this risk does not represent a threat the stability of the banking groups themselves.

Group-level risk assessment and management

At five of the banking groups with a foreign ownership background the owner has provided assistance by transferring its own guidelines and methodologies or by providing expert help, so that the groups' members assess market risk using uniform assessment methods and guidelines.

In terms of practices in the field of assessment and management of market risks, the Hungarian banking groups can be divided into the following categories:

1. Group-level risk assessment and management is carried out at the level of the domestic banking group (at three banking groups)

2. *Group-level risk assessment and management is only carried out by the foreign owner (at three banking groups)*

3. *No consolidated assessment of market risk (at five banking groups).*

Evaluation of risks

At the banking groups where members were found which assumed a significant amount of market risk as compared to the entire group, aggregate risk assessment is carried out at the parent credit institution or at the foreign owner bank. In both of these cases the Hungarian credit institutions have regular information on the aggregate risk assumed by the group.

Reinforcement of risk management activities is necessary at the two banking groups which have investment firms conducting a significant amount of own account activity, and there are strong grounds for introducing aggregate market risk assessment in Hungary. At the one banking group where a significant amount of interest rate risk may remain at the leasing companies, it would be prudent to introduce risk assessment and management at the group level.

With the expected introduction of data disclosure pertaining to the consolidated trading book from the beginning of 2004, parent credit institutions will be required to report at the aggregate level the capital requirements for market risks for members which maintain trading books (credit institutions with a trading book and investment firms). In addition to this, credit institutions subject to aggregate monitoring will also be required to report at the group level all capital requirements necessary for covering exchange rate risks, for which the parent bank

[137] The interest rate risk carried by insurance companies arises from the fact that they do not realise the technical interest rate on their bond investments. This technical interest rate is generally set at 4% in their contracts due to the competitive situation on the market, and currently there is a 4% interest rate ceiling in place as well. Taking into account that in respect of life insurers the time and amount of disbursals can be estimated with a relatively high degree of certainty, and that the reference yields on the benchmark 10-year and 15-year government bonds fluctuated between 6.3-6.4%, the interest rate risk exposure borne by insurance companies is considered to be low.

will need regular information for the entire group (including group members which do not maintain a trading book) in respect of exchange rate risks.

At the same time, consolidated data disclosure will not force the consolidated assessment of non-trading book interest rate risk. Consolidated assessment of the banking book interest position of financial enterprises and credit institutions will still occur at the discretion of the parent credit institutions.

LIQUIDITY RISK

As the importance of banking groups and financial conglomerates grows in the system of financial intermediation, technical solutions to the issue of central liquidity management have become more and more important. According to a study conducted by the ECB,[138] the banking groups and financial conglomerates active in the European Union mainly exploit the advantages of central liquidity planning and management to ensure long-term liquidity. Centralised, long-term and strategic planning of a group's asset requirements can significantly reduce financing costs. On the other hand, short-term liquidity management usually occurs at the level of the individual group members, which however does not mean that the various group member do not support each other in respect of short-term liquidity management (e.g. by keeping lines of credit open, transferring temporary surplus assets, etc.). Experience shows that banking groups generally initially attempt to ensure sufficient liquidity using group resources, and only later resort to accessing external funds.

Extent of risk exposure

Liquidity has two different, but related aspects: financing liquidity (capacity to draw assets from the market) and market/product liquidity (the possibility of selling the assets at an appropriate price on the market). These two aspects are strongly dependent on each other. If, for example, an institution with high capital gearing is not able to sell its assets in time and at an appropriate price, it will be forced to ensure the necessary liquidity from external sources, and vice versa, if an institution is unable to obtain suitable funds on the market, it will be forced to sell its assets, in some cases at prices which are not suitable.

The fact that nine of the Hungarian banking groups surveyed are supported by majority owners from developed countries significantly reduces financing risk, as it can generally be assumed that if necessary the majority owner will make available sufficient funds to its subsidiary bank. Hence, when evaluating the liquidity risk of these banking groups, it makes sense to also track the financial position and stability of the foreign owners.

When conducting centralised liquidity assessment and management, it is expedient to include all group members at which there is a significant degree of liquidity risk, i.e. where there is a greater chance of needing additional assets to settle their liabilities. After all, it can be assumed that if a group member requires additional liquidity, the parent credit institution will provide financing for that member, even if it does not keep a line of credit open for that member. The urge to rescue group members which are experiencing difficulties is particularly strong in crisis situations.

At one of the banking groups, the liquidity risk exposure of the credit institution members (based on the ratio of liquid assets[139] to the balance sheet total) is significant, while at two of the banking groups, liquidity risk exposure of the investment firms (based on the ratio of liquid assets[140] to short-term liabilities) is significant. In the case of the liquidity risk of the investment firms, this risk is significant compared to the size of the companies, but only represents a fraction of the total exposure of the parent credit institution.

Compared to their short-term liabilities, financial enterprises backed by banks keep a low share[141] of liquid assets, and the parent credit institutions play a key role in their short-term liquidity management. By way of their asset requirements or surplus assets, financial enterprises conducting their business activities with refinancing have an impact on the future liquidity of both the group and the refinancing credit institution.

As the share of risk assumed vis-à-vis financial enterprises relying on refinancing increases within a bank's total risk-taking, group-level liquidity management renders projections of the banking group's net financing requirement more and more reliable. The amount of risk assumed is understood to include both on balance sheet receivables and off balance sheet liabilities. The greater the amount of refinancing loans, the more impact is exerted on the bank's liquidity position by the leasing company's receivables through repayment of the refinancing loan. If the amounts in question are quite large, projections of the use of the credit line and the financial enterprise's asset requirements or surplus assets can render liquidity management much more accurate.

[138] Developments in banks' liquidity profile and management, ECB (May 2002)
[139] Cash on hand + settlement accounts + government securities (ex. consolidation bonds + 0–14 day interbank and central bank deposits).
[140] Liquid assets = cash on hand + government securities
[141] In calculating this ratio, the amount of cash on hand and government securities to short-term liabilities was compared, the average of which was 1% at bank-backed financial enterprises at end-December 2002.

Introduction of centralised planning is generally accompanied by continuous or regular monitoring of the liquidity of the banking group's members, as on-going supervision and correction is required for planning.

At four banks the share of loan receivables and contingent liabilities (primarily lines of credit) vis-à-vis the group's financial enterprises as a ratio of the total was less than 5%, at one bank it was between 5–10%, and at six banks it exceeded 10% at the end of 2002. In the case of a share in excess of 10%, projections of the liquidity requirements of the non-parent bank members of the banking group can significantly reduce the group's financing risks. Nevertheless, even at ratios of 5–10%, it is worthwhile to consider introducing centralised liquidity planning.

Taking into account the risk-taking of non parent credit institution group members, the following comments can be made with regards to the introduction or reinforcement of consolidated liquidity planning and assessment *(see Table VII-8).*

Group-level liquidity planning, assessment and management

In the European Union a trend can be observed according to which national supervisory authorities are increasingly attempting to expand data disclosure regulations pertaining to liquidity risk exposure to cover entire banking groups.[142] Consequently, we believe that in the future the foreign owners will develop their own methods of liquidity assessment in order to comply with the data disclosure requirements, and that, concomitantly, such methods will play an increasing important role in the introduction and strengthening of group-level liquidity management at their subsidiaries in Hungary.

At two of the banking groups, with the help of the foreign owners, group-level liquidity planning, assessment and management has been introduced, and at another two groups the owner has provided its own guidelines and methods as well as expert support so that the group members can prepare reports on liquidity risks in accordance with uniform assessment methods and fundamental principles.

In terms of liquidity management, Hungarian banking groups can be broken down into the following categories:

1. Group-level risk assessment and management at the level of the domestic banking groups (at three groups).

2. Group-level liquidity management conducted by the foreign owner (at two banking groups).

3. No group-level liquidity management, but the parent credit institution takes into account the liquidity requirements of the group members in preparing its annual plans. Supervision of compliance with the plan is ensured by monitoring the liquidity situation of the group members and reviewing the plan (at three banking groups). This type of liquidity management is considered adequate at those banking groups where, in addition to the risks borne by the parent bank, liquidity risk only arises based on refinancing of the group's financial enterprises.

4. Lack of consolidated liquidity management and the parent bank does not take the liquidity requirements of the group's members into account when preparing its annual plans (at three banking groups). No centralised liquidity management is carried out at these banking groups; liquidity risk is assessed and man-

Table VII-8 **Introduction and enchancement of planning and measuring liquidity**

	Risk factors	Number of banking groups[143]
Justified	Due to the extent of the liquidity risk of the credit institution members and/or a significant share of the parent bank's loan receivables from and contingent liabilities to financial enterprises.	7
Recommended	Due to the liquidity risk exposure of investment firms and/or moderate assumption of risk by the parent bank vis-à-vis the group's financial enterprises.	2

[142] Portugal recently introduced new regulations enabling both individual and group-level analysis of banks' liquidity positions: the Portuguese central bank stipulated a regular reporting obligation in relation to the current and future liquidity of financial groups. The central bank of the Netherlands also reviewed its regulations on liquidity last year, and decided to introduce group-level monitoring of liquidity, whereby foreign subsidiaries and branches will also be included.

[143] At two banking groups the liquidity risks borne by the non-credit institution members was insignificant.

aged individually by the members. The parent bank does not have information available on the liquidity risk exposure of the group members.

Evaluation of risks

There is one banking group where the risk is considered to be significant due to an inadequate level of liquidity risk management. In this particular group, the parent bank takes a substantial amount of risk vis-à-vis the group's financial enterprises, but at the same time, it fails to take into account the members' financing requirements or surplus in preparing its annual plans, which results in significantly great financing risk.

Due to the significant risk exposure, further strengthening of the liquidity management practices is needed at one banking group, and consolidated risk should be assessed on a daily basis. Introduction of group-level liquidity management should be considered at one other banking group, as this group has members which are investment firms which take on a considerable amount of risk compared to their size.

OPERATIONAL RISK

Extent of risk exposure

Operational risk can be qualified as follows at the 11 banking groups which were surveyed:

The main operational risks consist of technological risks, primarily in relation to the IT employed and the level of IT integration within the banking group. Only four banking groups have a uniform IT and accounting system, which can serve as a basis for group-level risk management using an automated, joint database.

A significant amount of activities by non-bank members of banking groups and a large volume of transactions between group members also results in greater operational risk. In such cases, there is a greater risk associated with the organisation of procedures, as well as human error (by employees) and external risk (changes in regulations). A greater amount of activity requires proper organisation of group-internal procedures, and formulation of effective decision-making procedures in terms of business management. In the field of risk management, it is necessary to develop limit systems which ensure prudent operations throughout the group, and to elaborate and implement systems which guarantee full, group-wide consideration, management and monitoring of risks. At seven of the banking groups the level of activity of non-bank groups members is considered to be significant, while at five of the groups there is a substantial amount of group-internal transactions.

Based on the above factors, operational risk can be considered significant at six banking groups, moderate at four banking groups and low at one banking group.

Table VII-9 **Rating of the operational risk explosure**

Banking group[144]	Non-transparent organisation	Lack of uniform IT and data processing system[145]	Significant activities by group members other than the bank	Significant amount of transactions between group members	Risk exposure
1		X	X	X	High
2	X		X	X	High
3		X			High
4		X	X		High
5		X	X	X	High
6		X	X		High
7	X	X			Moderate
8		X			Moderate
9			X	X	Moderate
10			X	X	Moderate
11					Low

[144] The designations used instead of the banks' names are different in the individual tables; identical designations in different tables do not necessarily represent the same banks or banking groups.

[145] At two banking groups, the merger of brokerage companies and ensuring the compatibility of the necessary IT systems will significantly increase banking operation risk in 2003.

Risk management

Before turning to the subject of the development of banks' awareness of operational risk, and the methodology for the assessment and management of such risk (this development has been quite obvious since the survey conducted last year), it is first perhaps worthwhile to examine the state of development of the operational risk management systems applied by the majority foreign owners. This is particular true, as in the majority of cases the operational risk management of banks in Hungary is fundamentally influenced by the owner's software and expert support, guidelines and data requests in this respect.

Three of the owners of Hungarian banks do not have a defined system that can be adapted to their Hungarian subsidiaries. Furthermore, two of the foreign owners only introduced systems for managing operational risk at the end of 2002, and will begin including their subsidiaries in this risk management system from 2003. In terms of preparedness, the parent bank in 'last place' only began to develop an operational risk management system this year, and thus its subsidiaries will only be included in this system in the future.

On the other hand, four of the foreign owners have advanced risk management systems in place. These owners provide their subsidiary banks with considerable support in terms of software and expert consultation, and the reports they request-data on losses, self-evaluation of risks-fundamentally influence the level of risk management at their Hungarian subsidiaries.

In terms of advanced risk management techniques, the bank and banking groups can be broken down into four categories:

Looking at risk management, two of the banks apply special safety mechanisms designed to mitigate operational risk. In addition to this, the majority of the banking groups have formulated business continuity plans at the group members and at the group level as well, regulate banking operations, have improved internal auditing within the bank and the efficiency of controls built into the procedures of the group members.

Evaluation of risks

A high or moderate level of risk exposure and a complete lack of risk management can be found at four banking groups, respectively. As two banks began work on risk assessment and management in 2003, the risk can be considered significant at two banking groups. On the whole it can be seen that compared to the results of last year's survey, the development of banks' systems has accelerated and that a broader approach is now being taken in terms of collecting data on losses and managing risks.

In the interests of compliance with the regulations stipulated by Basle II, all of the banks surveyed expressed their desire to further develop their risk assessment, evaluation and management systems. Introduction of the new capital requirements, according to which capital will also have to be allocated for operational risk, will accelerate the process of elaborating systems and the commencement and further refinement of data collection on losses, both at the parent banks and the banks in Hungary. At the same time, however, Basle II does not prod banks so much into consciously managing and assessing operational risks as it does in respect of lending risks. Considerably less capital needs to be allocated to covering operational risk than for covering lending risk, and thus there is less to gain from applied more advanced methodologies.[146]

Table VII-10 **Quality of operational risk management**

Banking group	No support from parent bank	No independent organisational unit	No collection of data on losses	No group-level risk management	Level of risk management
1					High
2					High
3		X			High
4				X	Moderate
5				X	Moderate
6	X	X	Partially	X	Low
7	X	X	X	X	Low
8		X	X	X	None
9	X		X	X	None
10	X	X	X	X	None
11	X	X		X	None

[146] Based on a survey by PWC, some 60% of the banks in the Central and Eastern European region have opted for the more advanced method of assessing lending risks, based on internal qualification, whereas only one-third of these banks plans to employ advanced methods for managing operational risks.

In the study on the management of operational risk published in 2002,[147] *it was also noted that banks' preparation for managing operational risk would be greatly facilitated if the banks cooperated on collecting and recording information on losses related operations. Many banks have indeed expressed an interest and intent to create a joint database pertaining to fraud, which is one of the main sources of operational risk.*

CONCLUSION

The parent credit institutions of the 11 banking groups surveyed account for 80% of the sector's balance sheet total. Banks and hence banking groups are generally the defining participants in the system of financial intermediation. With the exception of one of the banking groups, all of the members are financial intermediaries domiciled in Hungary.

In terms of *the structure of the banking groups*, it can be stated that the activities of the parent bank are dominant, accounting for some 88% of the balance sheet total. After these institutions, it is financial enterprises which account for the largest amount of volume, both in terms of their numbers and their share of activities in the group. All of the groups also have members which are specialised mainly in automobile and other asset financing and have a positive impact on group profitability. The relatively high share of business accounted for by other forms of credit institutions is explained by the increasingly dynamic activities of mortgage banks. Insurance companies, investment firms and investment funds together accounted for a share of merely 1.6% of the group. One of the main reasons for this is that many investment firms have been merged into banks in recent years, in order to enhance efficiency.

The *risk arising from indirect ownership* was deemed to be high in respect of two banking groups. In these groups, the share of non-credit institution members is quite great and the resulting average rate of direct ownership is less than 50%, reducing the level of transparency in the group. This risk can be offset by the controlling credit institution exercising direct control over the activities and risk taking of indirectly owned members and by maintaining an overview of the activities and risk exposure of the group members.

Turning to the issue of the *parent bank's control of the other group members*, it was found that all of the parent banks control the activities of the most important group members, even though at the majority of the banking groups the independence of the group members is ensured to a certain degree. With the exception of one banking group, on the whole it can said that in respect of the group members' risk management activities the control and supervision of the owners is sufficient, either through internal controls or by the responsible risk management departments.

Based on the investigation of the strength of the ties between the group members, such as a common name, cross-selling, coordination and centralisation of marketing activities, it was found that the risk of intra-group *contagion triggered by reputation risk* was extreme or high for banking groups which cover some 70% of the market. Hence, it is justified for the parent credit institutions to maintain tight control over the other group members and necessary to develop and strengthen risk management practices at the group level.

Currently, the lion's share of *risk assumed in Hungarian banking groups* consists of the parent credit institutions assumption of risk vis-à-vis the group members. The majority of this is risk-taking vis-à-vis financial enterprises, explained by the fact that the parent credit institutions generally only refinance the business activities of the group's leasing companies. Thus, the refinancing banks assume the entire risk associated with the lending of the leasing companies, and consequently it is crucial to ensure adequate owner control and an adequate degree of risk management.

At most of the banking groups, the group members make use of each others services, basically at market prices, but in any case at prices above cost, so that providing services for each other does not have a negative impact on profitability.

In 2002, there was only one banking group where loan receivables were transferred within the banking group, and the majority of this was of a technical nature, as there was no corresponding actual transfer of risk involved.

The most commonly used form of risk transfer on international market, involving various forms of securitisation, is not widespread on the Hungarian market.

Evaluation of risks

In respect of the credit institution members, the extent of *credit risk* in banking groups can be increased significantly by the activities of automobile financing and foreign subsidiaries.

Based on the results of the survey, it was found that the regulatory arbitrage related to financial enterprises and the lack of regulations governing consolidated risk management *did not lead to a substantial rise in risk with the banking groups*.

[147] Balás, Dávid, Sánta: Managing operational risks in the Hungarian banking system [Financial Stability Report, June 2002, MNB publication]

The majority of banks take a prudent approach in terms of the control of subsidiaries, risk management, development of large exposure limits and accounting of losses. It is worthy to note that despite the shortcomings of legal regulations, group-level management of large exposures can be considered well-developed at six of the banking groups. In spite of the fact that at four of the 11 banking groups the aggregate credit risk of the group members is not monitored or restricted, due to the structure of lending by the financial enterprises, the loans are not concentrated with a single borrower or group of borrowers. Based on this, their activities do not significantly increase the large risk exposure of the banks.

The regulations on consolidated data disclosure entering into effect from 2004 and compliance with group-level requirements such as the measurement of consolidated large risk exposure will resolve the current problems stemming from regulatory arbitrage. These consolidated data disclosure and aggregate large risk measurement requirements will force many banking groups to further develop their IT systems and to restructure the provision of information within the group.

Based on the risk exposure, quality of risk management and lack of large exposure limits, credit risk was found to be actually significant in one banking group.

In respect of *market risks*, at all of the banking groups where the group members other than the parent credit institution assume substantial market risk (for the stability of the group), consolidated market risk measurement is carried out by the parent credit institution or the foreign credit institution. Consequently, *none of the banking groups are characterised by significant risks* due to a lack of consolidated risk management.

With the expected introduction of data disclosure requirements for the consolidated trading book in 2004, parent credit institutions will be required to report a considerable portion of consolidated market risks. At the same time, however, consolidated data disclosure does not force the banks to measure interest rate risks not contained in the trading book, and it is up to the parent credit institution as to whether it wishes to include the banking book interest position of the financial enterprises and credit institutions in its measurement of consolidated market risk.

In respect of liquidity risk, there is one banking group with significant group-level financing risk due to inadequate liquidity management. In this group, the parent credit institution assumes considerable risk vis-à-vis the group's financial enterprises, while at the same time it does not take into account the members' financing needs or surpluses in the course of its annual planning.

Hungarian banking groups can be qualified as exhibiting significant shortcomings in the field of measurement and management of *operational risks*, but the same statement holds true for some of the banks' foreign parent banks as well. In the evaluation of operational risk, the relevant risks were found to be substantial at four banking groups, due to moderate or high exposure and a complete lack of risk assessment and management. As a result of progress in group-level risk management at the parent bank, from 2003 two banking groups began collecting regular data on losses and adapting the methodology employed by the parent bank. It is should also be noted that formulation of a system for managing operational risks is not expected in the near future at two of the banking groups.

Compared to the results of the study conducted in 1998-1999, the quality of group risk management has increased significantly. On the one hand, this has been the result of more effective supervision by the foreign owners, and the use of regulations on regular group-level reporting, while on the other hand, it has come about due to an increased awareness of risk in Hungarian banking management culture. The majority of the banking groups apply group-level risk management methods and consolidated limit systems designed to reduce risks.

Nevertheless, the quality of consolidated risk management is not always adequate in light of the risk exposure of the group's members. The problems found in lending risk will likely be resolved by amendment to the legal regulations, whereas development of group-level risk management techniques for liquidity risk and operational risk at some banking groups will depend on the risk sensitivity of the group's owner or management.

LITERATURE

Act CXII of 1996 on Credit Institutions and Financial Enterprises

Act CXX of 2001 on the Capital Market

Government Decree 244./200.(XII. 24.) on regulations governing positions registered in the trading book, risk assumption, and capital requirements for covering exchange rate and large risk, and on the detailed regulations for the trading book

Allfinanz 2000 by Lafferty Business Research [Lafferty Publications Limited, Dublin, 1994]

Australian Prudential Regulation Authority: Prudential Supervision of Conglomerates [March 1999]

Bancassurance [Risk Insights For Life & Health Insurance Executives, General & Cologne RE, May 2002, 4/2]

Balás, Dávid, Sánta: Managing operational risks in the Hungarian banking system [Financial Stability Report, June 2002, MNB publication]

Basle Committee on Banking Supervision of Financial Conglomerates, Joint Forum on Financial Conglomerates (1998)

Claudio E. V. Borio and Renato Filosa: The changing borders of banking: trends and implications [BIS Economic Papers No. 43., December 1994]

Cross sector risk transfers [Financial Services Authority, Discussion Papers, May 2002]

Directive 2002/87/EC of the European Parliament and the Council of 16 December 2002 on the supplementary supervision of credit institutions, insurance undertakings and investment firms in a financial conglomerate and amending Council Directives 73/239/EEC, 79/267/EEC, 92/49/EEC, 92/96/EEC, 93/6/EEC and 93/22/EEC, and Directives 98/78/EC and 2000/12/EC of the European Parliament and of the Council

Edwards, P. Managing Risk and Capital in Financial Conglomerates. Paper for a Conference organised by the Australian Prudential Regulation Authority [November 1998]

European Central Bank: Development in Bank's Liquidity Profile and Management [May 2002]

European Financial Market Integration [Organisation for Economic Co-operation and Development, Directorate for Financial, Fiscal and Enterprise Affairs Committee on Financial Markets, 31 October 2002]

George Vojta: The future of supervision [Annual survey of Supervisory Developments, 2001/2]

Edit Horváth - Anikó Szombati: Risk and regulation of financial groups and conglomerates (in Hungarian), [MNB Workshop Papers 25]

Zoltán Luttenberger: Bancassurance [Garancia Biztosító Rt., Workshop Papers I.]

Mac Donald, Ronald: Consolidated supervision of banks [Bank of England Centre for Central Banking Studies, Handbooks in central banking No. 15.]

Richard Farrant: Facing the reality of systemic risk [Annual survey of Supervisory Developments, 2001/2]

Risk transfer between banks, insurance companies and capital markets: an overview [Financial Stability Review, December 2001]

The Joint Forum: Intra-Group Transactions and Exposure Principles [Basle Committee on Banking Supervision, International Organisation of Securities Commissions, International Association of Insurance Supervisors, Basle, December 1999]

The Joint Forum: Risk Concentration Principles [Basle Committee on Banking Supervision, International Organisation of Securities Commissions, International Association of insurance Supervisors, Basle, December 1999]

The Joint Forum: Risk Management Practices and Regulatory Capital, Cross-sectoral Comparison [Basle Committee on Banking Supervision, International Organisation of Securities Commissions, International Association of insurance Supervisors, Basle, November 2001]

The Joint Forum: Supervisory Questionnaire [Basle Committee on Banking Supervision, International Organisation of Securities Commissions, International Association of insurance Supervisors, Basle, February 1999]

Thompson, G. and Gray, B.: Supervising Financial Institutions and Conglomerates. Paper for a Conference organized by the Australian Prudential Regulation Authority [1999]

Tobias C. Hoschka: Bancassurance In Europe [1994]

Judit Vincze: Market position of mortgage briefs and possible future developments (in Hungarian), [Hitelintézeti szemle, 2002/3]

VII. 2 THE DOUBLE CHALLENGE THAT COOPERATIVE OWNERSHIP AND INTERNATIONAL CAPITAL REGULATIONS POSE TO THE COOPERATIVE SECTOR

BY ANDRÁS BETHLENDI AND ERZSÉBET VAS-NAGY

Savings cooperatives in Hungary account for a considerable market share of the household sector (over 15%). Regulations pertaining to these institutions are, however, more lax than those pertaining to commercial banks in many respects.[148] By contrast, there are uniform regulations governing credit institutions in developed economies, irrespective of the form of ownership. Therefore, a close scrutiny of the structural and regulatory issues that are bound to shape the long-term development of the sector is a must.

Taking into account international trends in the development of savings cooperatives, the first part of this paper deals with the challenges originating from cooperative ownership and the various responses to these challenges.[149] Along with the development of the domestic cooperative sector, problems arising from this special form of ownership will become increasingly acute. Chapter 3 provides a detailed treatment of this issue. The second part elaborates on the challenges that the Basle II Regulations and the EU directive on capital adequacy, currently being drafted, pose or will pose for the domestic decentralised cooperative sector. The impact of the proposed capital regulations basically depends on the size and business profile of banks, rather than ownership form. In the case of well-developed centralised cooperative structure, the impact of the proposed regulations will not be different from that of commercial banks with a broad retail basis. Therefore, the basis for comparison in this part, irrespective of the form of ownership, is the degree of centralisation.

SPECIAL CHARACTERISTICS OF COOPERATIVE OWNERSHIP

Owners' decision-making is a relatively straightforward process in public limited companies owing to the common goal in such companies, i.e. profit maximisation. By contrast, in the case of coops, the interests of members as consumers and those of members as owners are different. Moreover, the interests of even one single member are not necessarily homogeneous–it may well be the case that the interests of a member as a customer are in stark contrast with his interests as an owner. Because of the existence of such conflicting interests, the process of democratic decision-making is more costly (more complicated, takes longer and less efficient). To make things worse, owing to an increasingly large number of mergers in the sector, coops are growing in size, and so is their membership, which renders the process of democratic decision making even more difficult.

For a cooperative there is no effective market for corporate control. Ownership control, too, is weaker than in public limited companies. Because of the dispersed ownership structure and the democratic decision-making process, individual members (owners) are unable to put pressure on management. Though public limited companies with a dispersed ownership structure face the same problem, in the case of coops, the goals that owners set for the management are also more complex, as the goals of the member-owners themselves are far from being unequivocal. In addition, unless the majority of the member-owners participate in decision-making, a minority interest group, generally, the management of the coop in question, can easily take over ownership control. This, in turn, results in the full autonomy of the management.[150] Thus, the problem of client-agent is felt more acutely in the cooperative sector.

As regards the conflicting interests of members, it should be noted that there has been a shift from the consumer's attitude towards the owner's (investor's) attitude. One of the major reasons for that is that the ratio of non-member customers has been on the increase for some time now, and they have more leverage than member-customers do. With ownership attitude becoming rife, goals tend to become more clear-cut. However, just as consumer interests are taking a low profile, so the very essence of the principle of cooperatives is disappearing, thereby questioning the need for a cooperative ownership form at all.

[148] For a more detailed treatment of the topic, see the relevant study published in the *Report* of August 2000.
[149] For the various types of the structures of co-operative banks (e.g. tight-loose integration, two-three tiers and cross guarantee – mutual insurance fund), see the study on the co-operative sector in the *Report* of August 2000.
[150] An illustrative example of which is the Banca Popolare di Milano SCRL in Italy, the bylaws of which, for this very reason, have since been changed at the urging of the Italian central bank.

The fund-raising instruments that coops have at their disposal are less flexible than the ones that public limited companies have because, by their very nature, they can only raise a limited amount of funds in the capital market. Capital accumulation typical of cooperative ownership is a slow process, unable to satisfy any increased capital requirement, whatever the reason is for such increase. Cooperative ownership does not allow for the possibility of the use of other, more flexible instruments, either. Cooperatives cannot, for example, carry out acquisition or obtain participation through share-swap operations. In effect, they have to pay for the participation they wish to acquire, which presents special difficulty when the price of the company to be purchased is made up of mostly goodwill.[151]

GLOBAL TRENDS

Although there are a number of countries with well-developed cooperative banking sectors in Europe with a significant deposit market share each (e.g. France, Finland, Austria, Italy, the Netherlands 30–35% and Germany 16%), in others, savings cooperatives seem to be losing ground. During the banking crisis in the early 1990s and the ensuing consolidation, their weight diminished significantly in Norway, Sweden and Denmark. The weight of building societies in the UK has declined owing to the fact that the form of ownership in many large building societies has changed. In Central and East Europe, only Poland (and Hungary) have a cooperative sector worthy of note; however, it represents no significant weight (below 6%) in the domestic deposit market.

Increasingly fierce competition in financial services even in economically more challenged and less populated areas as well as a growing proportion of non-member customers among local savings cooperatives' customers have boosted the market-oriented approach. Pricing policy has changed with customer and product profitability taking a higher profile. Also, the network of savings cooperatives has gone through considerable streamlining.[152] The cooperative banking groups that do well even today have employed various different methods of growth and development. Alliances have been forged in areas (e.g. investment banking, specialised services and asset management) where economies of size is a key consideration. Moreover, a few larger-size cooperative banking groups are on an acquisition binge. Each major up and coming cooperative banking group focuses on centralisation. Turning to capital markets, or the partial or complete demutualisation is only one possible way of raising the funds indispensable for growth. Demutualisation seems especially important for entities with large-scale external growth operations.[153]

Centralisation

The process of consolidation well underway among commercial banks in developed economies has also affected savings cooperatives, where a tendency of strong centralisation is discernible. The number of cooperatives has fallen considerably over the past years due to the fact that a large number of small-size savings cooperatives have merged.[154] Integrations and alliances have also become stronger. An increasingly large number of groups have adopted the legally binding cross guarantee system.[155] And even the ones that do not have a formal support mechanism in place are progressively tightening their links and striving to establish mutual support system. Making integration more efficient (e.g. centralisation of back office operations, harmonisation of data-processing and risk-assessment systems, adoption of a common marketing policy and product standardisation) also strengthens national and international positions.

The control that central institutions have over local banks has been increasing, with such local banks tending to operate as parts of sales networks. Group structures are becoming more and more centralised. Properly authorised central institutions can, to a certain degree, make up for the absence of the relevant management's ownership control.[156] As three-tier structures[157] are normally more decentralised than two-tier ones,[158] the need for streamlining group structure (e.g. centralisation and the introduction of integrated systems) is more pressing in cooperative banking groups with three-tier structure.[159] The ultimate goals of central-

[151] Due to one single acquisition, the capital adequacy ratio of, for instance, the French Crédit Mutuel Group fell from 14.6% to 8%.
[152] For example, 600 of the 1,500 branch offices of the Belgian CERA Group were closed within a relatively short time.
[153] The strategic goal of, for instance, the French Crédit Agricole to acquire a hefty share in the European retail market, whereas the Belgian CERA Group intends to do the same in CEE-countries.
[154] In Germany, for example, the number of banks fell by over 1,300 between 1990-1997 through the mergers of mainly co-operative banks. Lang and Welzel [1999] studied Bavarian co-operative banks, which are the members of the largest German co-operative bank group. Experience from the 283 instances of co-operative bank mergers between 1989 and 1997 shows that cost efficiency only improved when mergers also entailed the closing down of branch offices.
[155] Members warrant that they assume liability for each other's obligations.
[156] For example, the largest member of the French Banques Populaires made high-risk investments into commercial property, incurring substantial losses to the group. This then led to the reinforcement of the relevant central institution's supervisory role. Further examples of which are the measures taken in the wake of the high risk, property investment-related lending practice of three co-operative banks in Berlin, Germany.
[157] Local banks, regional banks and central institutions – Germany, Austria, Credito Cooperativo in Italy, and Crédit Mutuel and Crédit Agricole in France
[158] Local banks and central institutions – the Netherlands, Finland, Belgium and Banques Populaires in France
[159] An example of which is the mergers of German regional banks. The number of local banks is planned to fall by one-third. Considerable reduction is expected in that of IT systems as well. Further examples include the harmonisation of IT systems at the Credito Cooperativo in Italy and a steep drop in the number the regional banks of the French Crédit Agricole.

isation are to make the best possible use of the advantages offered by economies of scale and slash the costs-to-revenue ratio.

Capitalisation

Increasingly fierce competition generated by deregulation and IT development, more and more sophisticated provision of services, convergence of regulations pertaining to savings cooperatives and banks with other forms of ownership and, in certain cases, ambitious plans for growth (i.e. international acquisition) lead to a jump in capitalisation needs. These needs can no longer be satisfied with the kind of capital accumulation that has worked satisfactorily in the cooperative sector for decades. In addition to reinvesting earnings, acquiring new members and increasing the number of the shares that members subscribe, other means of capital accumulation should also be employed. As a result, an increasingly large number of entities representing cooperative banking groups appear on capital markets, which results in a willy-nilly coexistence of coop principles and market logic.

In the 1980s, a number of cooperative groups issued category B non-voting shares, which offered a limited return, subject to the annual financial results. Coops have been issuing debt securities since the 1990s,[160] though this activity has lagged far behind that of banks operating as public limited companies. Hybrid securities gaining ground on financial markets are much less popular in the cooperative banking sector. In the late 1980s and early 1990s, by issuing what was called 'Cooperative investment certificates', a portion of which are stock exchange-listed, Crédit Agricole of France was the most successful at making the most of the measures taken by the French government in order to facilitate equity fund raising. Basing on its excellent rating, the Dutch Rabobank issued two types of securities in 1999 and 2000. Both series consisted of investment shares with a low par value each, which served as primary capital elements. The first series offered non-voting, perpetual preferential shares with a fixed return of 7% in an aggregate value of 650 million eurodollars. The shares in second series were to be subscribed exclusively by the members of local savings cooperatives and employees of Rabobank. The amount of variable cumulative dividends paid on them exceeds those on 10-year Dutch government bonds by 1 percentage point. It is safe to assume that the success of this issue (1 billion-eurodollar-worth of securities twice over-subscribed) will encourage other cooperative banking groups with good rating to opt for this means of raising funds.

Demutualisation

The full demutualisation of local banks (i.e. complete abandonment of cooperative ownership and ensuing transformation into public limited companies) is common among 'groups' made up of completely independent units (e.g. building societies in the UK and Banche Popolari in Italy). Large building societies mostly opt for demutualisation because of their ambitious growth plans. In some cases, however, it serves as a means of consolidation, allowing for the possibility that an unstable savings cooperative can be affiliated into a universal bank. Demutualisation is most likely to be the most appropriate answer to the relative lack of capital flexibility when a savings cooperative does well and has good rating, as members' shares can then be sold at a satisfactorily high price and be transformed into real shares. Accordingly, demutualisation is common among large, prosperous building societies in the UK. Members of savings cooperatives with a large amount of accumulated capital are easy to persuade to demutualisation, as it means considerable 'windfall' gains for them in a short time. The theoretical possibility of demutualisation of this kind depends on the relevant regulatory environment, because the distribution of reserves accumulated through government subsidies and often over 100 years is not allowed in most countries. It should be noted that relevant legislation is to be tightened in the UK exactly because of the ethical problems originating from the distribution of enormous common wealth accumulated by former members.

The demutualisation of central institutions and/or their shareholdings (i.e. partial demutualisation from the point of view of a group as a whole) is common to nearly every cooperative banking group. Central institutions generally have a corporate status each, with mostly local cooperatives as owners. However, it is not the principle of 'one member – one vote' that is observed; rather, interest representation and voting rates reflect ownership share. It may also be the case that some member of the group is taken over by a universal bank. Demutualisation of this kind is often rather complex.[161] The merger of Belgium's central institution and a bank with a corporate status represents another form of partial demutualisation, in which one of the main underlying reasons is that the largest domestic bank should be in national ownership.[162]

Demutualisation poses several different kinds of risk. It may take a long period to complete, thereby distracting attention from day-to-day business operations for a length of time. The transformation of corporate culture is also time-consuming. Easier capital fund-raising rela-

[160] For example, a company is established that buys debt securities issued individually by the local banks and groups them together and issues a bond with the same term and yield.
[161] A member of the relevant group sells all its assets to an entity, which is then bought by a public limited company.
[162] The goal of creating a 'national champion' and maintaining its positions also features in France's Crédit Agricole.

tive to what it used to be like may, for a while, result in poor efficiency in the use of capital. Only a few banks that have undergone demutualisation have resorted to issuing shares in order to raise capital. Most have increased subordinated loans and employed hybrid instruments, with an attendant decline in the proportion of primary capital elements. Moreover, the practice of exceptional dividend payments and share buybacks evidences a growing tendency to withdraw profit.

RATING OF SAVINGS COOPERATIVES

European cooperative banking groups generally have rather good ratings, owing to the proper functioning of the comprehensive mutual support systems, the fact that they are too big to fail, their broad retail client base, which guarantees their excellent liquidity, and their sound and stable financial positions. The majority of these banking groups have good asset quality, as their units are perfectly conversant with the needs and demand of the local clientele and also because of a high degree of group-level diversification. Though their profitability is not exceptional, it is often less volatile than that of commercial banks in general.[163] The capital available for successful cooperative banking groups is abundant and of excellent quality. It follows from the very form of ownership that capital is, for the most part, primary, with secondary capital elements kept at a minimum. As the payment of dividends has never featured among the major goals of coops, capital is mostly made up of reinvested profit.

However, the bonds issued by cooperative-type local banks have, on the whole, poorer ratings than the ones issued by incorporated banks of similar size and business profile. The preferences of rating agencies presented below reflect the considerations as to the disadvantages of cooperative ownership as well as the trends in the development of successful cooperative banking groups.

1. Preference should be given to the most centralised decision-making process possible, as a decentralised and democratic one is slower. Accordingly, a flatter structure, i.e. a two-tier one to a three-tier one is to be preferred.

2. Preference should be given to assuming the fullest possible inter-group liability (preference to a system of explicit cross guarantee over institutional insurance funds). In the case of assumption of joint liability (explicit cross guarantee), all members of the groups are uniformly rated. The less liability members assume for each other, the greater the differences between the ratings of the individual members of the group in question may be.[164]

3. Preference should be given to a network of smaller-size homogeneous local banks over groups of heterogeneous savings cooperatives.

CHALLENGES POSED BY BASLE II REGULATIONS AND EU'S CAPITAL ADEQUACY DIRECTIVE IN-THE-MAKING[165]

The following section investigates the impact of the first pillar of the envisaged EU capital adequacy directive, which formulates the minimum capital requirements for credit institutions and investment firms, on the competitiveness and development of as well as the risks inherent in coops, and the changes that the sector is bound to make. In addition to the existing capital requirements for credit and market risks, the new directive is to set a separate requirement applicable to operational risks. The differing size and business profile of the institutions to be regulated warrant different options for each risk. The aim of this analysis is to highlight the advantages and disadvantages that the various regulatory options are likely to produce for the coop sector. A major consideration of this analysis is the investigation of developments brought about by various regulations in the competitiveness of the coop sector the relative to those in commercial banks'. The analysis focuses on capital requirements for risks assumed when credit is extended to micro, small and medium-sized enterprises. As none of the options are likely to change capital requirements for the other main group of cooperatives' instruments (i.e. government bonds as well as inter-bank and municipal loans) relative to capital requirements for such instruments of commercial banks, this aspect has been excluded from the analysis. Nor does it treat corporate lending, for corporations do not normally feature in the client portfolios of corporations. Furthermore, the analysis also briefly touches upon capital requirements for operational risks.

CAPITAL REQUIREMENT FOR CREDIT RISKS

Various options are available to set capital requirements for credit risks–one standardised method based on the

[163] Both the French Crédit Agricole and Dutch Rabobank were able to cover the losses from their investment banking operations in 1998 without having to endure any material shock, the reason for this being that investment banking only represented a small portion of the whole business operations of these two groups.

[164] As far as the method of prudential control, the permission of competition between group members, the scope and establishment of mutual support, the existence of an inter-group institutional insurance fund as well as enhanced group awareness are concerned, only a slight difference is allowed between the ratings of the individual German co-operative banks. By contrast, much greater difference is tolerated at the Italian Credito Cooperativo Group.

[165] Capital Adequacy Directive 3 (CAD 3) prepared in accordance with latter-day international Basle recommendations and to take effect at end-2006. Owing to Hungary's EU accession, it will be legally binding on all domestic credit institutions and investment firms. For the details of the envisaged regulations, visit http://europa.eu.int/comm/internal_market/en/finances/capitaladequacy/index.htm.

ratings of external rating agencies and two other (basic and advanced) based on internal rating (IRB standing for *internal rating-based approach*). The internal rating-based approach means that credit institutions are allowed to set their own capital requirements, relying on the data provided by their respective internal rating systems. Thus, statutory capital requirements better approximate the economic capital warranted by the relevant bank's risk profile. The introduction of the advanced IRB method is only recommended for large international banks with sophisticated risk management systems and a large database already in place. The adoption of this approach is unlikely in Hungary even over the medium run.

It follows that, in practice, cooperatives can only choose from between the standardised and the basic IRB methods. The differences between the two fall into three groups:

1. Risk weight attached to outstanding claims;

2. Eligible securities and their ability to reduce risk weight; and

3. Minimum requirement for the introduction of the individual options.

For lack of appropriate data, expected impacts on the sector cannot be quantified. Thus, only impact mechanisms and trends are analysed.

Measuring lending risk using the standard method

For savings cooperatives, the category of household loans, with preferential capital requirements, is especially important from the perspective of capital requirements related to lending risks. Under both methods, this category includes a portion of loans to SMEs as well. There are mainly economic policy considerations in the background of providing preferences for loans to SMEs, in addition to the rationale according to which, although loans to micro as well as small and medium-sized firms are individually riskier, a diversified portfolio of such loans carries less risks than a portfolio of loans to large companies. In addition, lenders treat these small-amount loans in a similar way as other loans to households, i.e. on an aggregate instead of an individual basis.

The standard method lays down two numeric conditions for using the preferential regulatory category applied to loans to households with a preferential, 75% risk weighting. One is that individual exposure to risk should not exceed EUR 1 million, the equivalent of around HUF 250 million. The second condition is diversification, according to which individual exposure to risks should not exceed 0.2% of the regulatory household portfolio. These limits imply two important consequences. First, this category of portfolio should contain at least 500 clients. Second, it should be worth at least HUF 125 billion, in order for the given institution to be able to utilise the HUF 250 million categorisation limit in full.

This regulation creates a strong competitive disadvantage for smaller entities which, due to the inadequate number of clients, cannot utilise the opportunity offered by preferential weighting, or they can only make use of a category limit of much less than HUF 250 million (a few tens of HUF millions).[166] For this reason, Consultation Paper No. 3 of the Basle Committee states that the Supervisory Authority should ascertain whether the regulatory household portfolio is diversified to the extent that it reduces risks demonstrably to 75%. As regards the numeric 0.2% limit, which has been criticised, it is only mentioned as a recommendation in the Paper, i.e. as a possible condition for concentration. The CAD3 draft is expected to be changed in a similar manner. At first glance, the regulatory household portfolio offers a substantial reduction in capital requirements for savings cooperatives, due to the high share of claims on households and SMEs. However, due to the diversification condition (0.2% or another prescribed by the Supervisory Authority), a part of the entities will not be able to exploit this opportunity, a larger part of them only being able to use it up to a very low amount of exposure to risks.[167]

The sector will only be able to solve this problem in close cooperation, given the size of the aggregate portfolio which allows to utilise in full the advantages arising from the HUF 250 million category limit. Failing to do so, cooperatives will face competitive disadvantages vis-à-vis commercial banks with large household and SME portfolios, as banks, by virtue of their size, are able to utilise to a maximum the opportunity offered by preferential weighting.

The minimum capital requirement of lending risks is largely dependent on the extent to which collateral is used. Currently, it is an important feature of savings cooperatives that they apply a narrow range of collateral,[168] although they use it much more frequently than commercial banks. Consequently, they register higher a portion of secured loans. The new regulation has reduced significantly the capital requirement of mortgage loans; however, it imposes conditions in respect of the market of real properties used as collateral. The

[166] At end-2002, the total outstanding loans of savings cooperatives amounted to HUF 316 billion, the largest individual loan portfolio being HUF 11 billion.
[167] Naturally, even in the case of a diversification condition different from 0.2% the HUF 250 million limit must be made proportionate to the size of the portfolio.
[168] For example, the use of financial assets as collateral is marginal.

depth and liquidity of the country property market make it doubtful to which extent savings cooperatives may share the advantages of the reduction in the maximum regulatory capital requirement.

In sum:

1. The capital requirement of loans to households, micro as well as small and medium-sized companies will reduce. However, the reduction in the capital requirement will be much smaller in the absence of close integration within the sector in comparison with that within a close integration, which, in turn, creates significant competitive disadvantages vis-à-vis to commercial banks with large household and SME portfolios. Another factor reducing risk weights is the extended range of recognised collateral, which, analysing savings cooperatives' current collateral policy, could be significant. The questions surrounding the competitiveness of real properties in the countryside and the eligibility of collateral and its more frequent use may limit the effects of these. The sector's participants may be disadvantaged in this area as well vis-à-vis commercial banks. The IRB method may offer a solution for some of these problems.

2. One disadvantage of the standard method is that it does not contribute materially to improving savings cooperatives' risk sensitivity, risk awareness and their risk management systems. Consequently, commercial banks with more flexible pricing methods and wider product supply may pick better clients, which may result in conserving savings cooperatives' non-performance rates. In addition, they will likely be faced with other financial intermediaries' increasing market strength, as a result of which they may be crowded out and forced to turn towards market segments carrying higher risks. Eventually, this may lead to a situation in which smaller amounts of capital will be associated with increasing or stagnating lending risks, which is undesirable from micro and macroprudential considerations.

SAVINGS COOPERATIVES' CURRENT COLLATERAL POLICY IN THE LIGHT OF THE NEW CAPITAL REQUIREMENTS

Generally, savings cooperatives extend loans in a somewhat riskier segment than commercial banks; however, nearly all (94%) of their claims are backed by some sort of collateral. One characteristic feature of the sub-sector's collateral policy is that mortgages provide more than two-thirds of collateral assets (for example, not only household loans, but micro and SME loans as well as, are often backed by dwelling mortgages).

Table VII-11 Use of collateral at the and of 2002

	Commercial banks	Savings cooperatives
Mortgage on real estates/Total collateral (full value)	41%	68%
(Mortgage on real estates, sales assignment, other claims assignment, lien on goods in stock)/ Total collateral (full value)	61%	81%
Collateralised claims/Total claims	56%	94%

Compared with the current rules, under the new regulation (i) the risk weight of claims backed by real property will be reduced and (ii) it will cover a much wider range of claims.

Using the standard method, the risk weight of all claims backed by dwelling mortgage (including SME loans as well) may fall from the current 50% to 40% (or to 35% if the latest Basle draft proposal is applied). Simultaneously with this, the risk weight of claims backed by mortgages on commercial property may fall to 50%. However, introducing the lower risk weights and defining the extent of reduction is every nation's discretionary right. The draft directive only stipulates that it may not extend to finance purchases of real properties and that the country's property market should be developed and operate for a long period. If these conditions are not met, then a 100% risk weight must be used. As the market of country real properties is not adequately liquid and deep in Hungary, preferential weighting can only be moderately justified.

While adding the credit derivative to the range of financial collateral currently recognised, including surety, guaranty and cash surety, the new regulation expands significantly the range of eligible collateral within the existing types of security. However, savings cooperatives will likely be less able to utilise the advantages offered by the wider range of financial collateral than commercial banks. Most of their customers do not hold eligible instruments, such as government bonds, shares, mutual funds shares and life insurance policies. It is moreover expected that these will likely proliferate more slowly among cooperatives' clients than among banks' clients. Nor are cash guarantors, including highly-rated companies, expected to be dominant in the market of micro as well as small and medium-sized firms financed by savings cooperatives. In addition, they will likely be unable to utilise the advantages arising from the use of credit derivatives, due to their relatively small size.

In addition to mortgages, the most frequently used types of security by savings cooperatives are liens on goods on stock, other assignments of claims and sales assignments. Savings cooperatives will likely be able to use these considerably more easily than the financial securities noted above, due to the characteristics of their customer base. However, these can only be recognised as reducing risk weights when using the IRB system. Their use may help reduce the loss ratio from 45% to as low as 35%. In the case of savings cooperatives, this may result in a significant reduction in the minimum capital requirement.

Measuring lending risks using the internal rating based approach

Applied to the household loan portfolio, the IRB approach does not distinguish between basic and advanced methods–the entities must estimate the parameters required to calculate the capital requirement. Here, the category of household portfolio includes three sub-categories: housing mortgage loans to households, rollover credit (outstanding lending is not significant currently) and other loans. Other loans include SME loans categorised into regulatory household loans. The curve defining the capital requirement of this category is much flatter than the curve of the corporate loan portfolio, and so it has a considerably lower capital requirement in the case of a similar PD and LGD. Two conditions must be met in order to categorise SMEs into this portfolio. First, the individual exposure to risks should not exceed EUR 1 million and, second, the entities should treat these loans in a similar way on an aggregate basis, as other loans to households (standard products, portfolio based risk measurement and management, scoring system, etc.). The Supervisory Authority may stipulate the number of transactions required to use the regulatory household portfolio category.

Compared with the standard method, the IRB approach offers further preferences to SME loans. Those SME loans that do not belong to the regulatory household portfolio have a flatter curve of the capital requirement than their large company counterparts. The current plan gives the largest preference up to a EUR 5 million (around HUF 1.25 billion) revenue, which then falls with the increase in corporate size, and declines to zero at EUR 50 million (around HUF 12.5 billion) sales revenue, which corresponds to the upper limit of categorising SMEs. Under the standard method, the IRB approximates the 8% capital requirement of unrated companies at a PD of around 3%, in the case of sales revenue amounting to a couple of billion forints *(see Chart VII-2)*. Presumably, practically all of savings cooperatives' corporate customers will be categorised into the one of the categories with preferential capital requirement, and the great majority of SMEs that cannot be classified into the regulatory household category have sales revenue of less than HUF 1–2 billion.

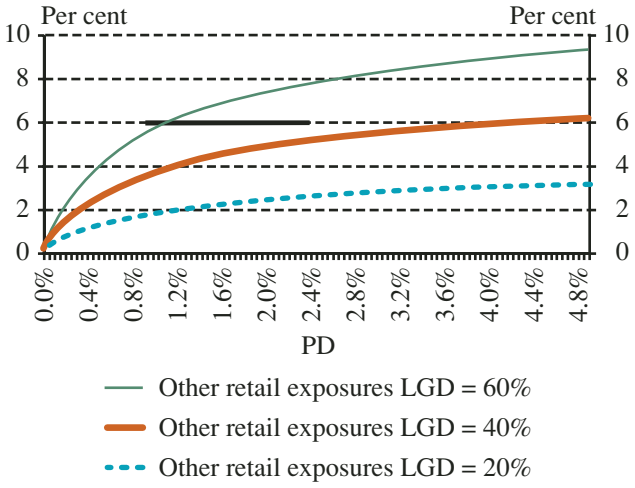
Using the standard method, savings cooperatives are mandated to establish a 6% capital requirement on corporate loans up to the amount of HUF 250 million,[169] and one of 8% for loans exceeding this amount. Assuming a 40%[170] LGD in the case of the regulatory household portfolio, the 6% capital requirement corresponds to a high, around 4% PD *(see Chart VII-3)*. This suggests that a large portion of loans has PD-LGD counterparts with lower capital requirements. For this reason, in the case of SME loans categorised into the regulatory household portfolio, there may not be a large difference between the capital requirements calculated using the standard and the IRB approach. Moreover, the latter may even yield a more favourable capital requirement.

Taking into account the use of collateral as well, in the case SME loans categorised into the regulatory household portfolio of loans backed by mortgage, the applicable 3.2% capital requirement calculated on the basis

[169] Based on the 75% risk weighting applicable to SMEs.
[170] Taking into account collateral policies, this does not seem to be too small.

of the standard method corresponds to a combination of a 20% LGD and a 7% PD, according to the IRB approach. If an SME loan is backed by a commercial property, the 4% capital requirement, calculated on the basis of the standard method, may even be equal to a higher LGD-PD pair *(see Chart VII-3)*. If a loan backed by a commercial property belongs to the corporate portfolio, then the LGD may even fall to 35%. In this case, the capital requirement, calculated according to the two methods, is only equal to a low PD *(see Chart VII-4)*. On the whole, there may not be a significant difference between the two approaches in the case of SME loan backed by a real property.

Chart VII-3 **Capital requirement of other retail category as a function of PD and LGD**



The IRB method also recognises other collateral, such as liens on goods on stock, sales assignment and other claims assignment, as reducing risk weights (the LGD may even fall to 35%). In the case of loans backed by any of these types of collateral, savings cooperatives may have a more favourable capital requirement than the standard 8% *(see Chart VII-4)*. In addition to the lowered capital requirement, due to the types of security noted above, the preferential treatment of SMEs according to size is also applied. Consequently, large reductions in the capital requirement of a large part of SMEs collateralised loans can be expected.

In the case of the household loan portfolio, the standard 6% capital requirement of other loans to households corresponds to a high PD-LGD pair *(see Chart VII-3)*. As regards households' mortgage loans, the IRB, applicable on the basis of the standard method, reaches the 3.2% capital requirement at least 5% with a minimum applicable 10% LGD, while with a 20% LGD, it reaches it with a PD of around 2% *(see Chart VII-5)*. Based on these, the IBR in the case of household loans can be considered at least as favourable as the standard method.

Chart VII-4 **Capital requirements of large corporates and firm-size adjusted capital requirements of SMEs'collaterised and non-collaterised loans as a function of PD**

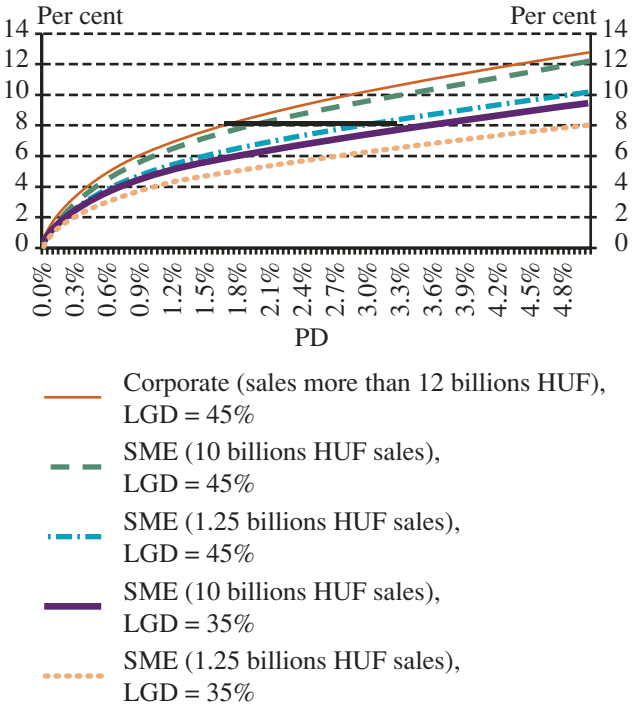
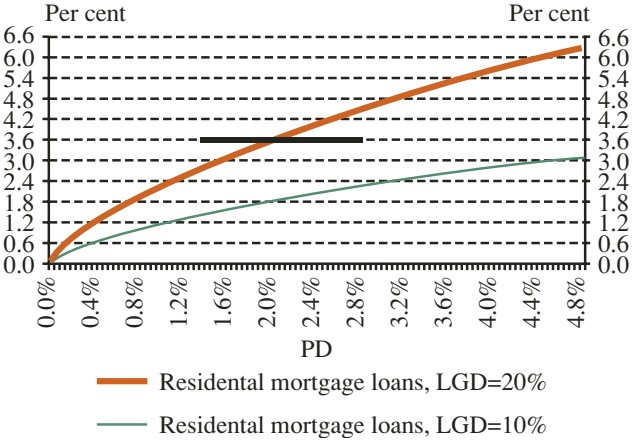


Chart VII-5 **Capital requirements of residental morgages loans as a function of PD and LGD**



There are stringent minimum requirements for the application of the IRB in respect of the risk management systems, organisational structure and corporate governance. Savings cooperatives should implement significant developments in these areas, in order to comply with these requirements. It is not the purpose

of this article to provide a description of minimum requirements. It only attempts to show why savings cooperatives would only be able to implement the developments noted above in a closer integration (limited competition among the members, joint systems developments, centralisation of certain areas of the operation, etc.).

1. Databases of adequate size (and the required IT systems) should be available, in order to quantify the various loss characteristics and for the Supervisory Authority to recognise them. In addition, in the case of household loans, risks, organised into relatively homogenous pools based on risk characteristics should differentiate at an acceptable level. Due to their size, savings cooperatives individually are not able to meet these requirements. However, bank groups and strategic alliances do have the opportunity to develop and use pooled databases,[171] which, in turn, may reduce considerably the costs per institution of developing such a system. Pooled databases do not substitute for the entities' own, internal databases, but rather complement these. Consequently, individual risk parameters can be better estimated. One important condition for introducing a joint database is that the entities using the joint database should have identical internal qualifying systems and criteria. Today, savings cooperatives' very different systems are not suitable for this. Obviously, due to the data and cost requirements of meeting the criteria, developing such systems can only be lucrative and effective if implemented in an integration.

2. The participants of the process may not be interested in the results of qualification in any way. A central risk management organisation and others at savings cooperatives, operating independently of decisions on the allocation of credit, are necessary. These would provide local decision-makers with adequate information. In banks' decisions, risk awareness should always be reflected at all levels, on a standard basis.

The integrated risk management system offers an opportunity in other areas as well to implement joint developments, for example, in pricing models and product development, which results in a more efficient and sophisticated product mix. This helps to improve the sector's competitiveness.

The draft directive stipulates that the model results should be combined with human judgement which should take into account all information that is not included in the model. Therefore, many years' experiences of current managers built up in the qualification process, and in lending decisions, will continue to be given strong emphasis. As a consequence, there will be a moderate reduction in competence in decision-making, due to organisation concentration.

The advantages and disadvantages of the IRB and the accompanying necessary closer integration can be summarised as follows:

1. In applying the IRB approach, capital requirements in the range of lending risks analysed are presumably more modest compared with savings cooperatives applying the standard method individually, and are nearly at the same level or, perhaps, lower compared with the sector introducing the standard method in an integrated way. However, the IRB method may have other additional benefits relative to the standard approach: a developed risk management system, lower lending losses due to higher risk awareness, significantly stronger operational security, a wider scale of services and more efficient provision of services.

2. Significant costs are expected in the area of developing a joint risk management system, its procedures and methods, the necessary database, IT system and restructuring the organisational setting. Due to the current decentralised structure, the costs of introducing the IRB approach by an integration would likely exceed those borne by a large bank of similar size.

3. On the whole, introducing the IRB method and the accompanying close integration, savings cooperatives would be considerably stronger and become equal rivals for commercial banks.

MANAGING OPERATIONAL RISK

The new regulation offers two choices to define the capital required to cover operational risks, similarly to lending risks. However, the applicability of the chosen method depends on the sophistication of risk management and its acceptance by the Supervisory Authority. In the rank of sophistication, the possible methods are basic indicator methods, the standard method, the alternative method and developed measuring methods. The most developed method, similarly to lending risks, is only an option defined for the largest international banks.

When either the basic indicator or the standardised method is used, the regulatory capital requirement is determined by means of an indicator. Currently, this indicator is a 3-year average of gross revenues, 15% of which is the minimum working capital requirement. If the working capital requirement *(see Table VII-12)* were introduced now, the minimum capital requirement for

[171] German savings cooperatives, for example, also plan to implement such a pooled data system.

Table VII-12 **Capital requirement of operational risk calculated by the basic indicator approach**

	CAR	Capital requirement of operational risk/ Regulatory capital	Capital requirement of operational risk/ Minimum required regulatory capital	CAR after the deduction of capital requirement of operational risk
Integrated savings banks (OTIVA member)	14.3%	15.3%	27.5%	12.1%
Non-integrated savings banks	14.0%	14.6%	25.6%	12.0%

Note: Capital requirement has been calculated from individual data for savings cooperatives.

savings cooperatives, based on their profit and loss accounts in each of 2000, 2001 and 2002, would increase significantly (by over 25%). This dovetails with QIS findings, according to which the most important source of revenues for banks with a large retail portfolio is interest margins. Its importance is underscored by the fact that margins are higher in this business profile; thus, overall, interest margins as a proportion of gross revenues are much higher here than at entities with a different profile. This is especially true for savings cooperatives in Hungary *(see Table VII-13)*. Higher capital requirements can impair competitiveness in countries where, for various reasons, risks (e.g. inflationary, lending, etc.) and hence average interest margins are high,[172] and also on a given market where institutions apply high margins owing to higher costs, risks, etc.

Table VII-13 **Revenue structure and average interest rate margins in the cooperative and commercial banking sectors in 2002**

	Savings banks	Commercial banks
Net interest income	80.8%	68.0%
Dividend income	0.1%	0.7%
Net fee and commision income	19.1%	23.2%
Net profit on financial operations	0.0%	8.1%
Net interest margin	6.2%	4.1%

The standardised method better allows for the operational risk exposure of the individual institutions. According to the method, institutions that have adopted it must classify their business lines into one of the eight that the method offers, and must establish their gross revenues for each business line. The method assumes that operational risk varies from business line to business line. Accordingly, instead of a uniform 15% used under the basic indicator method, a beta factor different (12%, 15% and 18%) in each business line is employed. With broad regulations applicable to retail portfolios discussed in the section on credit risks, retail banking, which is of utmost importance for savings cooperatives, has been granted a lower, 12% factor. The rest of cooperatives' business activities fall, almost exclusively, into commercial banking, which has been granted a 15% factor. Under this method, capital requirements for cooperatives are expected to be lower than what is required under the basic indicator method.

The use of the standardised method also means the fulfilment of important quality requirements including efficient and effective operating risk management and control as well as risk assessment and approvals of such assessment. At present, savings and loans apply 'brick-and-mortar' methods of operational risk management, i.e. internal procedural rules, internal audits and developing safe and reliable IT systems; however, risk assessment is still a moot question.[173] It follows that it would take savings cooperatives large-scale IT and HR development to prepare themselves for the adoption of the standardised method.

In addition to looser capital requirements, the true advantage that the standardised method offers is that the set of criteria which is a prerequisite for the adoption of the method itself, greatly helps create operational risk awareness and promotes the development of risk management. This may, over the long run, lead to a

[172] Hungary falls into this category. Commercial banks' interest margins are high relative to their West-European counterparts'.
[173] Based on a questionnaire survey conducted by the HFSA on the process of preparation for complying with the new Basle regulations governing capital adequacy.

decline in losses of this nature, an improved perception of the sector's competitiveness as well as a more favourable risk perception of the sector. However, both the establishment and maintenance of such a system are rather expensive. Furthermore, sophisticated methods require large databases. Thus, in order for the above system to be set up, coops must form a closely integrated system. Individually, they would be unable to both establish and run such system.

CONCLUDING REMARKS

International experience shows that disadvantages from cooperative ownership can be mitigated or eliminated in two ways. One is centralisation and the other is either the partial or complete abandonment of cooperative ownership. The number of small-sized savings cooperatives has decreased through consolidation. Integration and alliances have become stronger. The control that head offices have over local branch offices has been increasing, with such local branches tending to operate as parts of distribution networks. On the basis of the foregoing, it is close integration that would best promote the development of the cooperative sector in Hungary. Imminent regulatory changes, too, seem to be in favour of closer integration. Over the medium term, cooperatives can choose from between two options (standardised and IRB) concerning capital requirements for credit risk. They can work out three possible strategies for these options, i.e. the standard method introduced individually or in an integrated manner and the IRB method introduced in an integrated manner. A comparison of the expected advantages and disadvantages of these strategies shows that adoption of the IRB basic method developed under an integrated system fosters long-term development best. It should be emphasised that the individual introduction of the standardised method would entail the sector falling yet further behind and fossilisation of current macro-prudential methods. Furthermore, only coops working in integrated cooperation could benefit even from the advantages of the standardised method. A viable scenario would be for the sector to first prepare itself for the adoption of the standardised method while creating closer integration, and then switched over to IRB at a later stage. If integration is close, even the advanced standardised method can be selected from among the options for regulations on operational risks. This may lead to looser capital adequacy requirements and enhance the development of risk management.

LITERATURE

Basle Committee on Banking Supervision [2003]: The New Basle Capital Accord, Consultative Document

Basle Committee on Banking Supervision [2003]: Quantitative Impact Study 3

Dalmaz, Sylvie–De Toytot, Arnaud (2002): European Cooperative Banks Continue to Restructure, STANDARD & POOR'S Ratingsdirect, Research, 29-Apr-2002

Emmons, W.R.–Mueller, W. [1997]: Conflict of Interest between Borrowers and Lenders in Credit Cooperatives: The Case of German Co-operative Banks. Working Paper 1997-009A Federal Reserve Bank of St. Louis

Emmons, William R.–Schmid, Frank A. (2000): Pricing and Dividend Policies in Open Credit Cooperatives, FED of St. Louis Working Paper 2000-008A

European Association of Co-operative Banks [2001]: Position Paper on the 2nd Consultative Document of the Basle Committee of Banking Supervision on the New Basle Capital Accord

European Association of Co-operative Banks [2003]: Working Document of the Commission Services on Capital Requirements for Credit Institutions and Investment Firms

European Association of Co-operative Banks [2003]: The Serious Impact of the 0.2% Limit for Retail Exposures under the Standardised Approach

European Association of Co-operative Banks [2003]: Comments on the Transparency Group's Draft Paper: The Third Pillar – Market Discipline

European Commission [2002]: Working Document of the Commission Services on Capital Requirements for Credit Institutions and Investment Firms

Ferguson, Roger W [2003]: Basle II. BIS Review 10/2003

Fischer, Klaus P. (2001): Do Agencies rate Cooperative Bank-issued Bonds fairly? ICBA Journal No.13, 2001

Fitch IBCA [2001]: The European Co-operative Banking Sector, Financial Institution Special Report

Hall, C. [2002]: Economic capital: toward an integrated risk framework, October 2002 RISK

Hart, Oliver–Moore, John (1998): Cooperatives vs. Outside Ownership, NBER Working Paper 6421

Jackson, P. [2002]: Basle II Developments, Financial Stability Report, Bank of England December 2002

Kiss Gy. Kálmán (2002): A szövetkezetek és a Hpt. (Cooperatives and the Credit Institutions Act) Bank&Tőzsde, November 2002

Lang, Günter–Welzel, Peter (1999): Mergers Among German Cooperative Banks, Small Business Economics, vol. 13 (1999), 273–286

Le Bras, Alison (2001): The European Co-operative Banking Sector, FITCH IBCA Financial institutions Special Report 2001

Mérő Katalin [2002]: A hitelkockázatok tőkekövetelményének belső minősítésre támaszkodó meghatározása (Defining the capital requirement of lending risk relying on internal rating), Hitelintézeti Szemle No. 2, 2002

Stordel, H.–Cross,A. [2002]: A cost/benefit approach to Basle II, June 2002 RISK

Szőke Magdolna [2002]: Minimális tőkeszükséglet – mi változott? (Minimum capital requirement – what has changed?), Bank&Tőzsde November 2002.

Szőke Magdolna [2002]: A hitelkockázat mérésének sztenderd módszere és a kockázat csökkentése az új bázeli tőkeegyezmény tervezetében (The standard method of measuring lending risk and reduction of risks in the new draft Basle Capital Accord), Hitelintézeti Szemle No. 2, 2002

Tremblay, Benoit (2001): Cooperative Banks and the Mobilization of Capital: to what end, whit which partners and with what consequences for members? ICBA Journal No.13, 2001

INDEX OF CHARTS AND TABLES

CHARTS

I. MACROECONOMIC INDICATORS, SPRING 2003

Chart I-1	Real GDP growth	12
Chart I-2	Global risk indicators	13
Chart I-3	The EUR/HUF exchange rate	15
Chart I-4	Exchange rate volatility	15
Chart I-5	Variations in the forint's exchange rates and analysts' related expectations	16
Chart I-6	The MNB's key policy interest rates and money market returns	16
Chart I-7	Benchmark yields on government securities with less than one-year maturity	16
Chart I-8	Benchmark yields on the government securities market	17
Chart I-9	Non-residents' holdings and average maturity of government securities	17
Chart I-10	Distribution of the most probable dates for EMU entry	18
Chart I-11	Implied probability of EMU entry in 2007, 2008, 2009 or 2010 on the basis of information on yield curves	18
Chart I-12	Premium of the Polish, Czech and Hungarian spot yield curves above the euro yield curve	18
Chart I-13	One-year real interest rates	19
Chart I-14	Major US dollar-based stock exchange indexes	20
Chart I-15	CESI	20
Chart I-16	Sectoral breakdown of fixed capital investment activity	22
Chart I-17	Real growth rate of GDP as well as corporate and household loans	22
Chart I-18	Fixed capital investment in manufacturing, market services and construction	22
Chart I-19	Number of bankruptcies and liquidations	22
Chart I-20	Wage inflation and productivity in the private sector	23
Chart I-21	Actual inflation and inflation expectations for a given period from a year earlier	23
Chart I-22	Current account deficit as a proportion of GDP according the old and new methodology	24

II. STABILITY OF THE BANKING SECTOR

Chart II-1	Balance sheet total, household and corporate lending as a proportion of GDP	29
Chart II-2	Balance sheet total to GDP ratio in an international comparison	29
Chart II-3	Banks' corporate and household lending combined as a percentage of the balance sheet total	30
Chart II-4	Domestic banks' lending to companies as a percentage of GDP in the countries of Central and East Europe	30
Chart II-5	Bank lending to households in CEE countries as a percentage of GDP	31
Chart II-6	Financial position of non-financial corporations	32
Chart II-7	Composition of the financial assets of non-financial corporations	32
Chart II-8	Developments in the Budapest office rental market	33
Chart II-9	Capital gearing of non-financial corporations	33
Chart II-10	Cross-country comparison of capital gearing (debt to equity ratio) of non-financial corporations	34
Chart II-11	Changes in foreign currency lending to non-financial corporations	35
Chart II-12	Allocation of bank lending in a breakdown by size	35
Chart II-13	Lending to finance office building and shopping mall construction	35
Chart II-14	Commercial property lending as a percentage of GDP	36
Chart II-15	Bank lending in a breakdown by business sectors	36
Chart II-16	Concentration of corporate lending (Herfindhal-Hirschman Index)	36
Chart II-17	Concentration of the corporate credit market in Central and East Europe	37
Chart II-18	Interest rate margin prevalent in the corporate market	38
Chart II-19	Spread between new corporate loans and three-month money market rates	38
Chart II-20	Contingent liabilities	39
Chart II-21	Annual real change in financial assets and the stock of lending	40
Chart II-22	Ratios of non-bank financial assets and high-risk assets to total financial wealth	40
Chart II-23	Composition of financial wealth in an international comparison, 2000	41
Chart II-24	Households' property loans as a percentage of GDP, 2001	41

Chart II-25 Household lending as a percentage of disposable income 41
Chart II-26 Households' relative outstanding loans and interest burden 42
Chart II-27 Households' property loans as a percentage of total loans 42
Chart II-28 Bank lending to households 42
Chart II-29 Banks' housing (mortgage) loans 43
Chart II-30 Number of building permits issued quarterly 43
Chart II-31 Nominal and real rates of interest on banks' new housing loans granted under market terms 43
Chart II-32 Market concentration (HHI) of banks' housing loans, consumer credit and other loans 44
Chart II-33 Consumer and other credit versus non-bank credit 44
Chart II-34 Nominal and real interest rates on banks' non-housing loans, as well as spreads on three-month treasury bills 44
Chart II-35 Concentration of bank lending to households in CEE countries 45
Chart II-36 Ratio of the classified portfolio to total portfolio and balance sheet items to be classified 46
Chart II-37 Ratio of special watch and non-performing loans to the balance sheet item to be classified 46
Chart II-38 Changes in the ratio of non-performing corporate loans 47
Chart II-39 Growth rate of loans versus changes in the ratios of special watch and non-performing loans 48
Chart II-40 Changes in the ratio of non-performing loans in five CEE countries and the European Union 48
Chart II-41 Three-month BUBOR and banks' interest rates 50
Chart II-42 Banks' 90-day cumulative repricing gaps as a proportion of the balance sheet total 51
Chart II-43 Foreign currency assets and liabilities as a proportion of the balance sheet total 52
Chart II-44 Banks' total foreign currency position 52
Chart II-45 Utilisation of limits on open positions 52
Chart II-46 Loan-to-deposit ratio of the banking sector 53
Chart II-47 Liquid asset ratio 53
Chart II-48 Money market exposure 54
Chart II-49 Long-term assets and liabilities of the banking sector as a proportion of the balance sheet total 54
Chart II-50 Capital adequacy ratio (CAR), stress CAR and tier 1 CAR 56
Chart II-51 The ten banks with the highest balance sheet total, their average, the sector's average financial position and the ratio of non-performing assets, 31 December 2002 56
Chart II-52 Excesses over limits pursuant to the Credit Institutions Act 57
Chart II-53 Regulatory capital and its components 57
Chart II-54 Ratio of CAR and non-performing loans in five CEECs and the European Union, end-2001 57
Chart II-55 Banking sector's ROE and real ROE 58
Chart II-56 Hungarian banks' profitability in international comparison, 2001 58
Chart II-57 Banks' market shares based on income brackets 59
Chart II-58 Components of spread 59
Chart II-59 Net interest margin in international comparison 60
Chart II-60 Interest and non-interest income as a proportion of gross operating profits 60
Chart II-61 Operating costs as a proportion of the balance sheet total 61
Chart II-62 Operating costs-to-total assets ratio in international comparison 61

IV. Non-bank financial intermediaries

Chart IV-1 Distribution of household and corporate sector savings held with financial intermediaries by intermediary institution 73
Chart IV-2 Household and corporate sector savings held with financial intermediaries as a proportion of GDP 73

V. Operations of and risks in interbank payment and settlement systems

Chart V-1 Banks' daily average liquidity and payment turnover 89
Chart V-2 Banks' intra-day credit lines 90
Chart V-3 Distribution of payment instructions in December 2001 and December 2002 90
Chart V-4 Monthly value queued in VIBER in 2000–2002 90
Chart V-5 Availability of VIBER 91
Chart V-6 Availability of KELER's services in 2002 91

VI. Current topics related to stability

Chart VI-1	Forint deposits of non-residents with Hungarian commercial banks	98
Chart VI-2	Positions taken by residents and non-residents in the forint	99
Chart VI-3	EUR/HUF exchange rate and its daily volatility	100
Chart VI-4	Main policy interest rates of the MNB versus money market rates	101
Chart VI-5	Market expectations of the likely date of restoring the original set of instruments	101
Chart VI-6	Average monthly rates of interest on credit institutions' short-term facilities	102
Chart VI-7	Distribution of liquidity surplus among various central bank instruments	102
Chart VI-8	Average monthly volumes of sterilisation instruments September 1998–April 2002	105
Chart VI-9	Proportion of liquid assets	105
Chart VI-10	Quarterly increase in the amount of domestic loans to non-financial companies excluding exchange rate effects	105
Chart VI-11	The banking system's open FX position	106
Chart VI-12	The banking system's return on assets (ROA)	106
Chart VI-13	Record-keeping and provision of information	109
Chart VI-14	Consolidated requirements	109
Chart VI-15	Consolidated requirements	110
Chart VI-16	Consolidated requirements	111
Chart VI-17	Supervision of record-keeping, information provision and inter-bank transactions	112
Chart VI-18	Households net lending (transactions) according to the old and new methodologies	115
Chart VI-19	Hungary's net lending vis-à-vis the rest of the world	116
Chart VI-20	External equilibrium indicators as a percentage of GDP	118
Chart VI-21	General government deficit and external equilibrium as a percentage of GDP	119
Chart VI-22	Corporate fixed investment and external equilibrium as a percentage of GDP	120

VII. Articles

Chart VII-1	Transparency of banking groups	127
Chart VII-2	Level of reputation contagion risk	129
Chart VII-3	Capital requirement of other retail category as a function of PD and LGD	151
Chart VII-4	Capital requirements of large corporates and firm-size adjusted capital requirements of SMEs'collaterised and non-collaterised loans as a function of PD	151
Chart VII-5	Capital requirements of residental morgages loans as a function of PD and LGD	151

Tables

I. Macroeconomic indicators, spring 2003

Table I-1	Global and regional growth rates	11
Table I-2	Annual rate of growth of GDP and its components	21
Table I-3	Current account deficit and the financing capacity of the individual sectors	25

II. Stability of the banking sector

Table II-1	Corporate loans in a breakdown by sector and degree of concentration	37
Table II-2	Net provisioning	46
Table II-3	Recorded losses in value in the various classified asset categories as a proportion of the gross value of balance sheet items	47
Table II-4	Main indicators of interest rate risk exposure	50
Table II-5	Components of the risk-adjusted balance sheet total	55
Table II-6	Capital adequacy ratio of the five largest banks	56
Table II-7	Banking sector profits	59

III. The activities of savings cooperatives in 2002

Table III-1 Market share of savings cooperatives within credit institutions 65
Table III-2 Capital adequacy ratio of savings cooperatives 65
Table III-3 Savings cooperatives' own capital 66
Table III-4 Quality of savings cooperatives' balance sheet items 67
Table III-5 Loan loss ratios of savings cooperatives 68
Table III-6 Profitability of savings cooperatives 69

IV. Non-bank financial intermediaries

Table IV-1 Financial assets of institutional investors as a proportion of GDP in EU countries in 2000 73
Table IV-2 Number and net asset value of investment funds 75
Table IV-3 Distribution of investment units by major holding sectors 75
Table IV-4 Composition of investment funds' assets 76
Table IV-5 Aggregate data for private and voluntary pension funds 77
Table IV-6 Composition of pension funds' assets 78
Table IV-7 Life insurance reserves 80
Table IV-8 Composition of life insurers' investments for standard and unit-linked life insurance schemes 81
Table IV-9 Concentration of the activities of financial enterprises in 2002 82

VI. Current topics related to stability

Table VI-1 Changes in the individual sectors' forint positions at an exchange rate near the limit of the band and during the period from the start of depreciation to mid-May 2003 100
Table VI-2 Developments in three-month corporate and household deposit rates in the period between November 2002 and March 2003 101
Table VI-3a Balance sheet of the MNB 103
Table VI-3b Balance sheet of the MNB 103
Table VI-4 Hungary's net financing requirement vis-à-vis the rest of the world 117
Table VI-5 Net reinvested earnings as a proportion of GDP 120
Table VI-6 External equilibrium as a percentage of GDP 121

VII. Articles

Table VII-1 Structure of banking groups at end-2002 126
Table VII-2 Rating of the transparency of banking groups 127
Table VII-3 Distribution of risk-taking by parent credit institutions vis-à-vis other group members by type of entity 130
Table VII-4 Credit risk exposure of financial enterprises 132
Table VII-5 Distribution of portfolios at end-2002 133
Table VII-6 The risk management of banking groups can be qualified according to the following aspects 134
Table VII-7 Exchange rate and interest rate risk exposure of leasing companies in banking groups 136
Table VII-8 Introduction and enchancement of planning and measuring liquidity 138
Table VII-9 Rating of the operational risk explosure 139
Table VII-10 Quality of operational risk management 140
Table VII-11 Use of collateral at the and of 2002 149
Table VII-12 Capital requirement of operational risk calculated by the basic indicator approach 153
Table VII-13 Revenue structure and average interest rate margins in the cooperative and commercial banking sectors in 2002 153

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