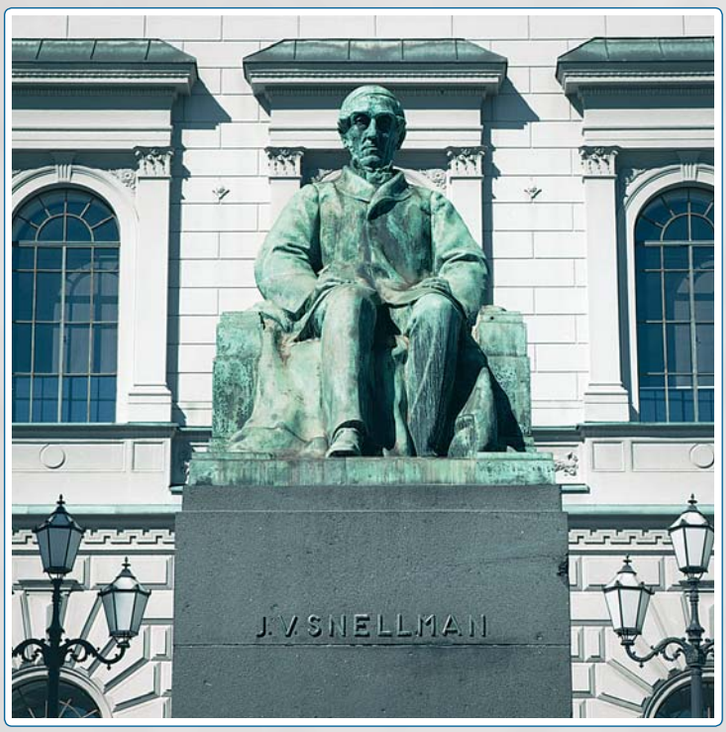
BANK OF FINLAND

BULLETIN

FINANCIAL STABILITY

SPECIAL ISSUE • 2004



SUOMEN PANKKI
FINLANDS BANK

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Financial stability • 2004
(Special issue, published annually)

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Printed
by Libris, Helsinki 2004

ISSN 0784-6509 (print)
ISSN 1456-5870 (online)

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Preface

The Bank of Finland's key statutory tasks include participation in the maintenance and development of a reliable and efficient payment system and overall financial system. These tasks are also an integral part of the ESCB's and ECB's role in promoting the smooth operation of payment systems and the stability of the financial system within the euro area.

The Bank of Finland sees its role as a promoter of stability. Price stability, efficient and stable financial markets and sound public finances are all essential requisites of economic growth and employment. The various functions of the Bank of Finland all work to further these goals. Indeed, the Bank's success in achieving these goals is founded on a high-level expertise in the monetary and financial economics along with an effective network of partners – international and domestic. Efficient and open communication is an integral part of this success.

Since 1998, the Bank of Finland has published a biannual report on financial stability in the journals Euro & talous (in Finnish) and the Bank of Finland Bulletin. A separate, broader-based overview of the stability of the Finnish financial market, to be issued once a year, was first published in the autumn of 2003. Publication of the Financial Stability edition of the Bulletin is in line with international developments in the sector and further enhances the analytical evaluations already made of the situation in the financial market and its development. Repeated financial crises in different parts of the world along with the major structural changes to the financial markets have increased the need for analysis by the authorities, and by the central banks in particular, of both the development of the financial system and the attendant risks. The Bank of Finland was one of the first central banks in the world to begin the publication of a regular stability assessment. The international trend, supported particularly by the IMF and the BIS, has led to the publication of extensive, in-depth stability analyses by central banks all over the world.

Through its publications the Bank seeks to spread awareness of the functioning and outlook of the financial markets and to stimulate debate on the operations and role of these markets in Finland.

Helsinki, 20 October 2004

Matti Louekoski
Deputy Governor of the Bank of Finland

Summary and conclusions

Robust growth of the world economy promotes stable and reliable functioning of the international financial system. Economic growth has not only boosted profits in the financial sector but has also improved the near-term credit-risk outlook for banks and other financial intermediaries. However, international economic development is clouded by large imbalances which, if realised, could interrupt the smooth functioning of the financial system. The most significant of these threats concern rising oil prices, the US deficit problem coupled with easing consumption demand, an abrupt halt in economic growth in China and the consequences of the abundance of liquidity in the world economy. Abundant liquidity is associated with sharply rising housing prices and a significant increase in housing loans in a number of developed countries.

Developments in the international money and capital markets have been relatively unproblematic in 2004. Market reactions to the gradual tightening of US monetary policy have, to date, been moderate and there have been no signs of the extreme growth in bond yield, as was experienced in the turbulence of 1994. The long period of low interest rates has induced investors to favour high-yield, high-risk bonds. Realisation of the threats to the global economy would first hit the markets for high-yield financial instruments where investors are most susceptible to negative signals. The rapid growth in hedge funds has alerted the authorities, and led to tighter monitoring of the funds.

The state and outlook of the international banking sector varies across areas and countries, in spite of the accelerating growth experienced by all the key economic areas. Financial results in the US banking sector have been excellent and rising interest rates and an increasing lending stock bode well for continuing good results. There have been signs of slight improvement in the Japanese banks' condition although their stock of non-performing assets still remains large. In China, the banks' strong growth of lending stock is associated with an increase in credit risk.

Banks' profitability within the EU area improved in 2003 and the trend seems set to have continued in 2004. Low interest rates have eroded banks' net interest income but the growth in lending stock, cost reduction and diminished loan losses have promoted good financial results. Risk prospects in the EU area are currently relatively benign. The increase in household debt levels experienced in several EU countries over a number of years has drawn attention to household sector credit risk. The most significant threat is associated with factors causing uncertainty over economic growth as well as rising housing prices.

In many ways, the situation regarding Nordic and Baltic banking

operations and stability prospects have developed in line with the rest of Europe. The cost efficiency and profitability of large Nordic financial conglomerates has long been above the European average. Banks' loan write-offs have been very small. The optimisation of the amount of Tier 1 capital adopted by the large Nordic banks requires profitability to be founded on efficiency and sustainable business concepts rather than one-off profit improvement schemes.

Near-term forecasts suggesting a bright outlook for the Finnish economy favour the domestic financial system. In the short run, the main risks are related to possible contagion from international growth problems affecting Finland. Risks to financial institutions caused by the domestic corporate sector are expected to remain at a low level in the near future. In recent years, the corporate debt ratio and overall financial position have remained sound. No particular sector can be pinpointed as a cause for concern. Household sector indebtedness has increased fairly rapidly with an increase in the associated risks. In the long run, the ability of the economy – and the private sector in particular – to remain vital and capable of investment is a source of concern for the Finnish financial sector.

Finnish banks have experienced an improvement in their financial performance due to a step-up in fee income and a reduction in expenses. Low interest rates and persistently narrow lending margins have eroded the banks' net interest income, although the strong demand for housing loans has prevented the net interest income from weakening significantly. Loan losses reported by the banks were small and, on average, capital adequacy remained sound. Financial conglomerates reported conspicuously improved results. The improvements were indicative of improved operating profits of both the life and non-life insurance sectors, as well as of non-recurring items. The health of the insurance sector has generally improved over the last few years. The results from the full year 2004 of the Finnish banking groups are likely to improve from the previous year.

In the short run, risk prospects for the Finnish banking sector are good, and it is expected that the sector will remain stable. Household lending is the only sector in which signs of increased credit risk can be detected and where, in the light of experience, the risks associated with loans to households, especially housing loans, have not been excessive. Despite this, household lending still accounts for the largest proportion of banks' overall loan stock, whereby the situation in this sector needs to be monitored closely. One ominous scenario would be where interest rates rise steeply at the same time that housing prices plummet and household income levels decline.

Strong growth in lending has increased banks' liquidity risk, as banks have increasingly had to resort to short-term market-based financing. This form of financing is particularly susceptible to fluctuation and its price reacts quickly to changes in banks' creditworthiness. The banks' market risks, on the other hand, have remained fairly stable. Structural change, outsourcing of certain operations as well as significant changes in regulations and supervision emphasise the importance of banks' strategic and operational risk management.

The increasing integration of financial market infrastructure is expected to bring about notable cost reductions. Current solutions are seen as overly expensive and, in some cases, too slow. The efforts to gain the aspired efficiencies can already be seen, for example, in closer cooperation between stock exchanges, the merging of central securities depositories and the first steps towards centralised payment systems (TARGET2 and STEP2). Pan-European compatibility is essential, although integration may not always promote the solutions adopted within Finland. In particular, domestic payment systems may not continue to develop as swiftly in coming years as they have in the past. Structural changes within the sector and ownership reorganisations have brought about renewed planning of the payment and settlement systems. The division of the Nordic Baltic area into those countries belonging to the euro area and other European Union Member States creates problems for the integration of the systems. Unfortunately, it will not be possible to take advantage of the coming benefits as soon as was originally planned.

The most significant reforms concerning regulation and supervision currently being prepared concern the adoption of new International Financial Reporting Standards (IFRS) and revision of banks' capital requirements (Basel II). Major challenges remain to be faced before the adoption of these two reforms can be brought about, as the differences between both economic areas and national practices pertaining to regulation and supervision are significant.

The market infrastructure has encountered serious challenges touching sectoral crossovers, pricing of services, the need to maintain a level playing field and avoidance of regulatory rigidity, as well as finding innovative supervisory or oversight structures responding to the responsibilities of both home and host country authorities. The weighty initiatives recently drawn up by the European Commission on payment systems as well as securities clearing and settlement systems constitute decisive, but previously missing, undertakings promoting the integration process. Responses under the consultation procedure, provided by market

operators, underlined the desire to promote integration by means of framework legislation, although the need to analyse the effects of the legislation, in advance of furthering it and putting it into force, was also emphasised. Market sector organisations and other similar interest groups take a clear stance regarding statutory procedures and the objectives behind the otherwise lacking regulations, even if some of these represent conflicting opinions. Stress tests undertaken on the infrastructure of the financial market indicate how vital it is that the regulations comprehensively reach all key players in the sector.

The correct choice of regulatory measures is by no means self evident, as a choice will have to be made between the framework directives, strong self-regulation, and the measures imposed by the various levels of recommendations. In any case, in future, self-regulation by market operators should increasingly be object of authorities' evaluations, as a well-functioning system of self-regulation creates more effective and flexible rules for the market to play by.

Because of the new central securities depository groups that have sprung up in Europe, it is crucial that close attention is paid to the pricing of their services and competition between the systems' participants. Short-term advantages to the owners must not be allowed to receive exaggerated emphasis in the governance of the systems. Harmonised regulatory and oversight projects are successfully promoting a level playing field across areas served by the different payment systems. In fact they ought to weigh the scope of the systems and the actual risks they may generate in order to avoid unnecessary regulatory burden.

Current economic forecasts suggest continued stability for Finland's financial system as a whole. According to stress tests undertaken at the Bank of Finland, the Finnish banking system's buffers against losses would be able to withstand clearly weaker economic developments than have been forecast.

International operating environment

Global economic growth supports stable and reliable functioning of the international financial system. Economic recovery is also expected to pick up in the euro area and the Nordic countries. However, international economic prospects are tempered by a number of threats, whose materialisation could also affect the functioning of the financial system. To date, the international money and capital markets have coped well with the mild tightening of monetary policy in the United States and certain other countries. Due to favourable economic developments and improved investment income, the condition of the international banking and insurance sector has improved from last year.

The world economy has been growing at a rapid pace, which has created a supportive environment for the stable and reliable functioning of the financial system.[1] Economic growth has supported profit developments in the financial sector, thus improving the near-term credit-risk outlook of banks and other financial intermediaries. The rate of growth of the world economy is considered to have peaked already and is expected to slow down in 2005 (Table 1). However, from the viewpoint of the financial system, the outlook for the real economy in the main economic areas still remains relatively unproblematic. Major stock markets have anticipated the change in economic outlook as the upward trend of stock prices up to the beginning of 2004 has since stabilised within a relatively flat range.

Growth of the world economy has been boosted particularly by rapid growth in the United States and Asian economies, although this started to slow down in the second quarter this year. There has been an upward trend in consumer confidence in the United States this year (Chart 1), although private consumption growth seems to be slowing down. Among Asian economies, Japan grew at a rapid pace in the beginning of 2004 but slowed down in the second quarter. Japanese economic growth is expected to exceed the 1990s' average in the coming years although many structural problems in the economy remain unsolved. Chinese economic growth has been very fast, so in spring the government took various measures to prevent overheating of the economy.

International economic prospects are tempered by a number of threats, many of which, if materialised, could

[1] For a discussion on the global economic outlook, see Bank of Finland Bulletin 3/2004.

Table 1.

International growth rates

GDP change in real terms, %

	2002	*2003*	*2004f*	*2005f*	*2006f*
World	*2.9*	*3.8*	*4.6*	*4.0*	*4.0*
United States	*2.2*	*3.0*	*4.3*	*2.9*	*2.7*
EU15	*1.0*	*0.8*	*2.2*	*2.4*	*2.3*
Japan	*–0.3*	*2.5*	*4.4*	*2.4*	*2.2*

EU15 = euro area, United Kingdom, Sweden and Denmark.
f = forecast.
Source: Bank of Finland.

slow down economic growth faster than expected and disturb the functioning of the global financial system. If oil prices continued to rise and remained at a high level for extended periods of time, this would increase inflationary pressures, hinder economic growth and increase uncertainties in the financial markets. The most difficult scenario would be the emergence of aggravated oil price shocks caused by terrorist attacks, geopolitical tensions or other factors affecting oil supply.

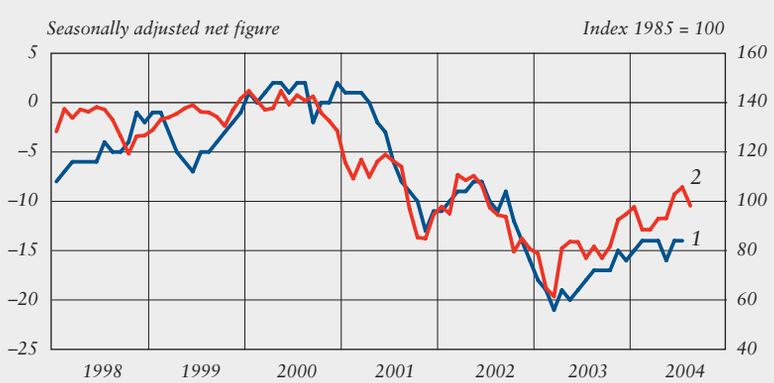
For a long time, economic developments in the United States have been clouded by large imbalances, such as the current account and budget deficits and significant indebtedness of households. To date, deficits have been funded without problems. This has been supported, among other things, by rapid economic growth that has kept the return on capital at a high level. At the same time, however, the deficit problems have continued to exacerbate. Disappointments in economic growth or in stabilisation of public finances could prompt an unexpectedly strong and sudden correction involving a significant decline of the dollar and a rise in interest rates. This could be reflected in the financial system not only as an increase in credit losses due to a deceleration of economic growth but also as liquidity disturbances in some market segments. The unwinding of imbalances in the US economy could also be reflected in a significant rise in the savings rate of the household sector and a decline in consumption.

Other major risks to the international economy are related to the rapid growth of the Chinese economy and its containment, and the effects of abundant liquidity in the world economy. China has tightened its economic policy since spring in order to prevent overheating. On the one hand, there is a risk that the measures introduced by authorities will slow

Growth of the world economy shadowed by number of threats.

Chart 1.

Consumer confidence in the euro area and the United States



1. Euro area (LHS)
2. United States, Conference Board Index (RHS)
Sources: European Commission and Bloomberg.

Housing prices have risen sharply in several industrialised nations.

down economic growth more than desired, and on the other hand that the impact of these measures will remain temporary and the risk of overheating will surface again. From the viewpoint of the international financial system, however, the menaces to Chinese economic growth are of relatively minor significance.

Strong monetary and credit growth in the world's major economic areas has led to concerns about the impact of abundant liquidity on inflation and inflation expectations, and therefore also economic growth. Abundant liquidity is also related to the rapid increase in housing prices in many developed countries. From the viewpoint of stability, abundant liquidity in the world economy is worrying because rapid credit growth increases the vulnerability of the financial system.

The growth rate of residential real estate prices has been rapid in many industrialised countries in recent years (Chart 2). Many housing market indicators have broken records: the ratio of housing loans to GDP, the number of owner-occupied real estate, ratio of housing prices to disposable income and the ratio of housing prices to rent.[2]

The rise in households' housing indebtedness has in many countries increased the sensitivity of the sector to an increase in interest rates as well as a decrease of disposable income and drop in residential real estate prices. From the viewpoint of lenders, risks related to housing loans have been diversified in recent years on a broader base than before. In many countries, the original providers of housing loans are selling their loan assets to other investors more often than before.

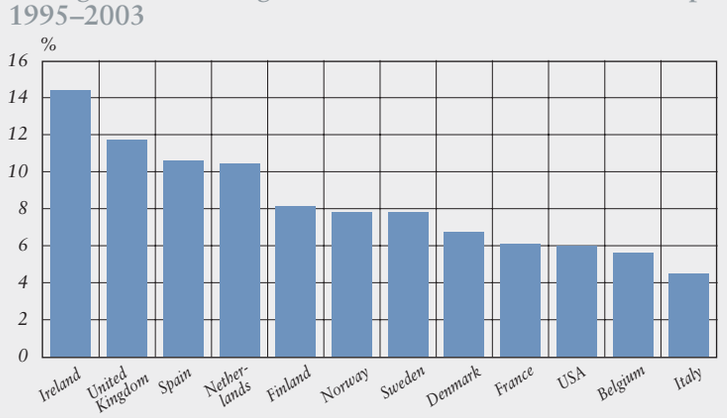
Euro area

After a few years of slow growth, economic growth in the euro area is

[2] IMF, World Economic Outlook (September 2004).

Chart 2.

Average annual change of nominal residential real estate prices in selected countries, 1995–2003



Source: BIS.

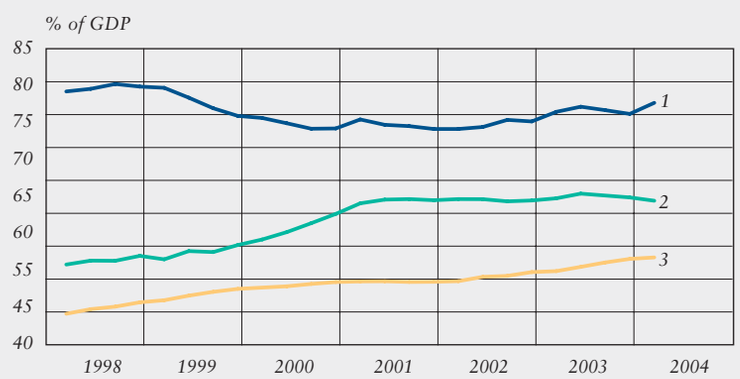
expected to pick up somewhat in 2004 and 2005. However, there will be significant differences in development from country to country.

The indebtedness of the euro area corporate sector has been decreasing slowly since 2003 (Chart 3), but still remains notably high. High indebtedness weighs on risk-bearing capacity, thus posing a risk from the viewpoint of the financial system. It may also decrease companies' willingness to invest. Investment growth has indeed been slow in the euro area, for example, in comparison to the United States. Business confidence has improved only slightly this year (Chart 4), and the improvement has not so far had any clear impact on companies' willingness to invest or borrow.

Euro area households' indebtedness has been growing for several years already. Although indebtedness as a percentage of disposable income still

Chart 3.

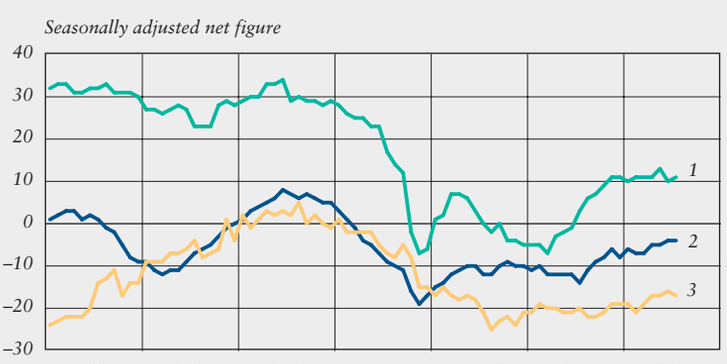
Indebtedness by sector in the euro area



1. Public sector
2. Companies
3. Households
Sources: Bank of Finland and European Central Bank.

Chart 4.

Business confidence indicators in the euro area



1. Service sector
2. Industry
3. Construction
Source: European Commission.

remains significantly lower in the euro area (77% in 2002) than in the United States (113% in 2003) or Japan (108% in 2002), attention must be paid to the development of the situation. Euro area households' confidence has improved slightly from the trough of 2003 but still remains clearly lower than at the turn of the millennium.

Nordic and Baltic countries

In 2003, economic growth in other Nordic countries, except for Iceland, remained slower than in Finland (Table 2). Indicators from early 2004 also show a pick-up in growth in Norway, Sweden and Denmark. In all Nordic countries, growth is estimated to continue at a faster pace than in recent years. Nevertheless, investment developments have been sluggish in all Nordic countries.

Corporate borrowing has increased only slowly or decreased due to sluggish developments in investment. Banks' corporate risk exposures have decreased clearly in the Nordic countries. This is indicated by a decrease since the beginning of 2003 in the expected default frequencies[3] calculated on the basis of market and financial statement information of listed companies (Chart 5). In recent years, market

Table 2.

GDP growth in the Nordic and Baltic countries

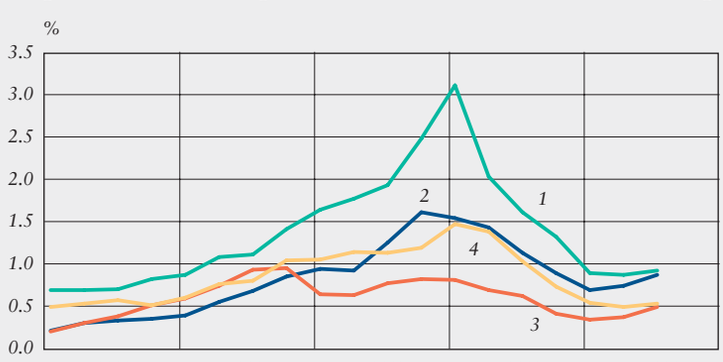
In real terms, %	*2002*	*2003*	*2004f*	*2005f*
Finland	*2.3*	*2.0*	*2.8*	*2.6*
Sweden	*2.1*	*1.6*	*3.0*	*2.5*
Denmark	*1.0*	*0.5*	*2.1*	*2.5*
Norway	*1.4*	*0.4*	*2.7*	*2.7*
Iceland	*–0.5*	*4.0*	*4.4*	*5.3*
Estonia	*7.2*	*5.1*	*5.8*	*5.4*
Latvia	*6.4*	*7.5*	*6.5*	*6.0*
Lithuania	*6.8*	*9.0*	*7.0*	*7.0*

f = forecast
Source: IMF.

[3] The expected default frequency (EDF), calculated using option pricing methods, for the next 12 months measures the probability that the market value of a company's assets decreases below the nominal value of its liabilities. The market value and volatility of a company's assets necessary for calculation are derived from the market value and volatility of its shares, and the nominal value of its liabilities.

Chart 5.

Expected default frequencies (EDF)* of Nordic listed companies



1. Norway
2. Sweden
3. Finland
4. Denmark
** Median.*
Source: Moody's KMV.

perception of risks associated with companies has been particularly high in Norway, but also in Sweden and Denmark they have been higher than in Finland. Along with the economic recovery, differences in risk across countries have narrowed.

Households' debt relative to disposable income is particularly high by international standards in Denmark (218% in 2002) and Iceland (181% in 2003). Households' indebtedness ratio also exceeds euro area average clearly in Norway (151% in 2002) and Sweden (120% in 2003). Differences in indebtedness are partly explained by structural differences in financial systems. In any case, households' indebtedness must be monitored carefully, especially because it is expected to continue growing.

Economic growth in the Baltic countries has been strong in recent years, and rapid growth is expected to continue as these economies converge towards the euro area and other old EU member states (Table 2). The chronic current account deficit in these countries increases their vulnerability in the long term. In the first quarter of 2004, current account deficits relative to GDP varied between 9% and 12% in the Baltic countries.

Growth rate of loans by banks to companies exceeded 20% in all Baltic countries in 2003. Rapid credit growth is partly explained by brisk economic growth and low level of interest rates. Bank finance has replaced to some extent financing from abroad, which continues to play a big role in the Baltic economies.

Loans to households and households' indebtedness have increased particularly rapidly in the Baltic countries. In 2003, the growth of loans to households was slowest in Estonia, where they grew about 1.5 times, and fastest in Lithuania, where they grew twofold. The rapid growth rate is explained by the fact that the stock of loans to households is still relatively small. To date, the quality of loans to households in the Baltic countries has remained fairly good. However, rapid loan growth is usually associated with an increase in credit risks.

Households' indebtedness ratio in Nordic countries is very high.

International capital markets

Development of the international financial markets has been fairly unproblematic in 2004. The relatively rapid growth of the world economy, improvement of corporate profitability, strengthening of balance sheets and a decline in the number of payment defaults and bankruptcies have supported particularly bond price developments.

The international upturn of stock prices which began in spring 2003 turned flat after the first quarter in the United States and Europe and in late spring in Japan (Chart 6). In the background of these developments were, among other things, a rapid rise in oil prices, change in expected US monetary policy and weaker-than-expected economic data published in the United States in the summer.

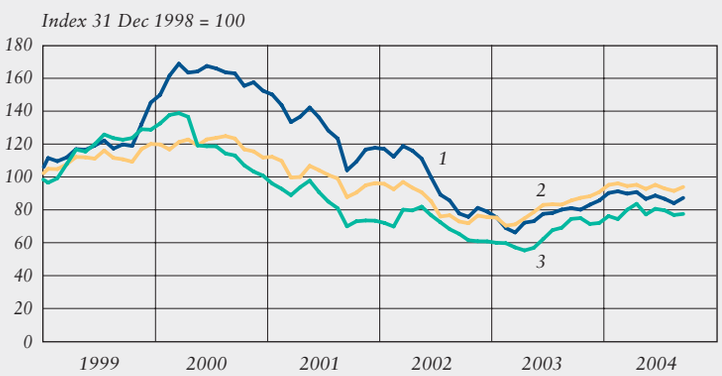
Valuations (P/E ratios) in the main stock markets are presently near their long-term averages. However, there is great variation across different sectors. Stock prices in the banking and insurance sectors are on average below their long-term averages both in the United States and in Europe. Valuations of technology and media companies still remain high.

Despite recent decline in stock prices, stock market index volatilities, measuring uncertainty in the stock markets, have remained low (Chart 7).

From the viewpoint of the international money and capital markets, a major turning point - potentially prone to create turbulence - has been the shift in many countries' monetary policy towards tightening after a long period of expansionary policy. In 1994, a turn in the so-called monetary policy cycle in the United States caused turbulence in the financial

Chart 6.

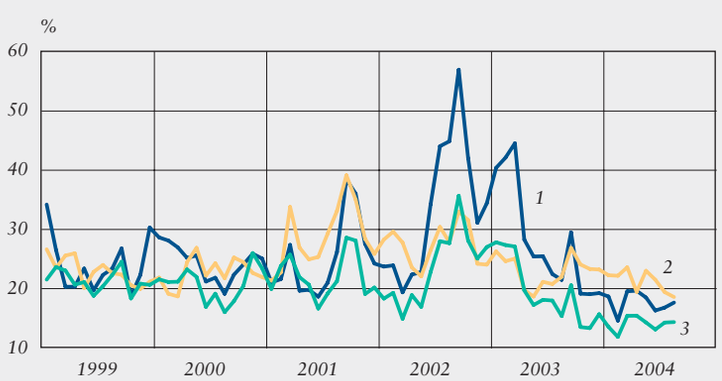
Stock indices in the euro area, United States and Japan



1. Euroarea: Dow Jones Euro Stoxx 50 Index
2. United States: Standard & Poor's 500 Index
3. Japan: Nikkei 225 Index
Source: Bloomberg.

Chart 7.

Volatility of stock indices* in the euro area, United States and Japan



1. Euro area: Dow Jones Euro Stoxx 50 Index
2. United States: Standard & Poor's 500 Index
3. Japan: Nikkei 225 Index
** Implied volatility calculated by option prices.*
Source: Bloomberg.

markets, when bond yields rose steeply immediately after the first rate hike.

Monetary policy tightening has not to date led to a rise in long-term interest rates. This reflects better perceived foreseeability of monetary policy and the fact that inflation expectations have remained low. Following a rise in spring, bond yields have indeed started to decline again. The threat of a strong rise in long-term interest rates seems to have decreased in recent months. However, a rise in inflation expectations could prompt another upward turn in US interest rates. Similar consequences could result from an uncontrolled correction in the US current account deficit, which has continued expanding.

Long-term interest rates in Europe and Japan trail, to a large degree, the developments of corresponding US rates, so the impact of an interest rate rise in the United States would therefore also extend to other economies.

The fact that the level of interest rates has remained low for extended periods of time has increased investors' interest in high-yield bonds and other high-risk debt instruments. Corporate bond yield spreads have therefore narrowed substantially since 2002 (Chart 8). The spreads between yields on corporate bonds rated BBB or below and government bonds narrowed substantially in 2003 and have since then remained relatively stable at a low level. In Europe, yields on BBB-rated bonds have even declined further. The narrowing of spreads has boosted the issuance of high-yield bonds in Europe. In particular, companies in telecommunications have made a return to the bond market.

Some investors may have underestimated the risks of high-yield financial instruments.

It is possible that some investors have underestimated the risks related to high-yield credit instruments. There is a risk that a potential decline in corporate profits or another negative signal would increase investors' return requirement or prompt a rapid retreat by investors from the high-yield market. This would make it more difficult for high-risk companies and emerging market economies to obtain finance.

On the whole, corporate bond issuance in the international bond markets has not increased during the first half of this year. In contrast, the number of new contracts in the syndicated loan markets has reached record levels this year.

Issuance by governments and financial institutions has increased from last year (Chart 9). The rise in interest expectations has shifted investors' interest more clearly towards floating-rate bonds. This has been shown for example in issuance by financial institutions, almost half of which has consisted of floating-rate bonds.

Expectations of a rise in monetary policy rates and fluctuations in long-term interest rates have increased fixed-income investors' needs for hedging. Hence the trading volume of interest rate derivatives has been growing in both derivatives exchanges and the OTC markets. In Europe, the market for interest rate

derivatives has been active, but growth in derivatives exchanges has not been as rapid as in the United States. Also in the OTC markets, the growth rate of trading volumes of dollar-denominated derivatives contracts has been faster than that of euro-denominated contracts.

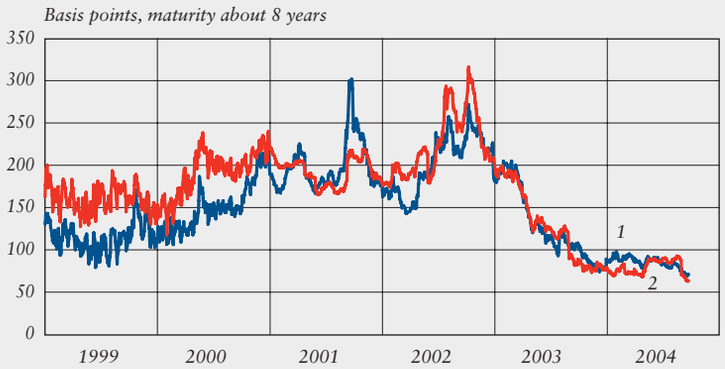
International competition between derivatives marketplaces has also increased considerably. The world's largest derivatives exchange, Eurex, expanded its derivatives exchange and clearing operations into the US markets at the beginning of this year.

The fastest-growing sectors in the international financial markets in recent year include hedge funds. At the end of 2003, hedge funds managed a total of about USD 800 billion of assets, and the number of hedge funds has already exceeded 8,000.

Due to failures and many incidents of abuse, the US Securities and Exchange Commission (SEC) has made preparations to increase the

Chart 8.

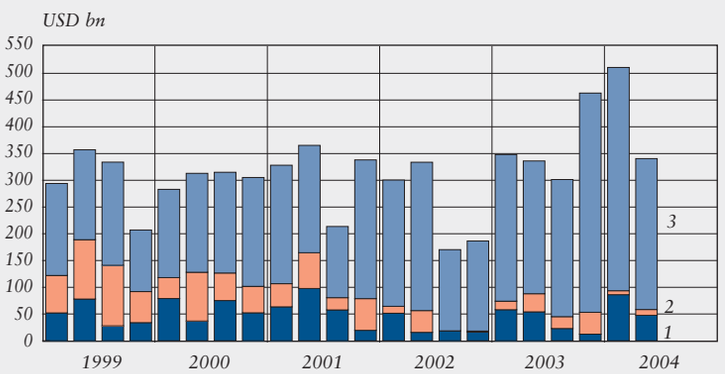
Interest-rate spread between BBB-rated corporate bonds and government bonds



1. Euro-denominated
2. USD-denominated
Source: Merrill Lynch.

Chart 9.

Issuance of international bonds, net



1. Public sector
2. Companies
3. Financial institutions
Source: BIS.

monitoring of the operations of hedge funds. The reform includes a requirement for large funds to provide information on their operations to authorities (more detail on page 23, 'Development of international regulation and supervision').

Previously, most investors in hedge funds were wealthy individual investors, but later on the importance of institutional investors, such as pension funds and insurance companies, has increased. This has given rise to concerns that the potential problems of hedge funds would spread more widely in the financial markets. Along with the growth in the industry, new hedge funds have entered the markets seeking investors also in the retail markets.

Hedge funds using aggressive leverage function as banks' counterparties. The concentration of counterparty risk from hedge funds in largest banks may lead to increased systemic risk and also a spreading of potential disturbances in the entire financial system. Therefore closer monitoring of the constantly growing hedge fund industry is warranted.

International banking sector

The stability and risk outlook as well as business prospects of the finance industry are brightened by the forecasted economic growth, which is to remain on average at reasonable levels in industrialised countries and China.

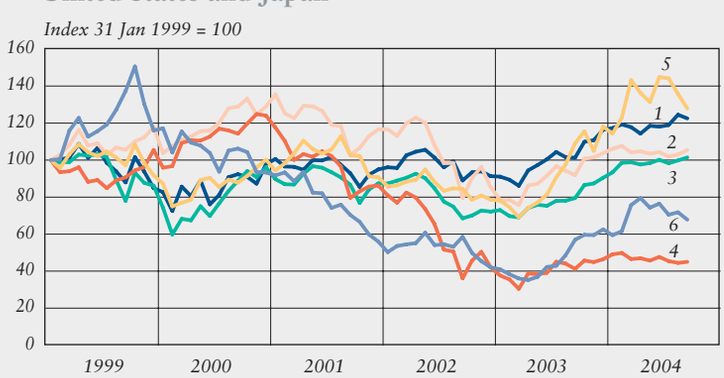
Banks' favourable profit developments are reflected in stock prices in the financial sector (Chart 10). Particularly in the *United States*, banks' excellent results have boosted stock prices in the banking sector. US banks' results have improved in 2004 from a year ago due to improvements in operative efficiency, small provisions for loan losses and stable development of returns.

The quality of US banks' credit portfolios is likely to remain strong in the absence of major setbacks in economic developments. Profits have

Authorities are concerned about risks related to the operations of hedge funds.

Chart 10.

Stock indices of banks and insurance companies in Europe, United States and Japan



1. United States: Standard & Poor's 500, banks
2. Europe: Dow Jones Stoxx 600, banks
3. United States: Standard & Poor's 500, life insurance
4. Europe: Dow Jones Stoxx 600, insurance
5. Japan: Topix, insurance
6. Japan: Topix, banks
Source: Bloomberg.

Stability and risk outlook is brightened by expected economic growth.

helped to maintain capital adequacy. In spite of a rise in interest rates, loan demand has increased from the beginning of 2004.[4] The demand for bank loans has been supported by a slight revival of investments and an increase in mergers and acquisitions. Rising interest rates and growing loan stock make profit growth possible.

However, the US financial sector has problems, too. These are related, for instance, to financial statement irregularities in special mortgage finance corporations (most importantly Fannie Mae) and revealed incidents of abuse in fund management companies. At present, there are many questions related to regulation and supervision on the table and subject to drafting in the US (more detail on page 23, 'Development international regulation and supervision').

The situation of banks in *Japan* as regards profits is slightly improving, although there are great differences across banks. In April-June 2004, large banking groups recorded a positive result. As regards banks' asset quality, the situation is helped by the overall economic growth but banks' stock of non-performing loans remains large.[5]

Overall economic growth is expected to result in an increase in interest rates also in Japan. This highlights the importance of market risk management, as the rise in interest rates leads to pressure to write down banks' bond portfolios. On the other hand, the likely rise of stock prices associated with an accelerating economic growth would improve banks' profits. The problems of the Japanese banking sector are not over although the profits of the largest banks have improved.

In *China*, rapid economic development has coincided with a strong growth of banks' loan stock. An important question related to the banking sector is the future development of the quality of the loan stock, as economic policies are aimed at containing growth that has been deemed overheated. During 2003, the growth rate of the loan stock of Chinese financial institutions slowed down below 15% year-on-year.[6] Another important issue is strengthening the capital buffers of large Chinese banks. The results of the largest Chinese banks have been positive in 2002 and 2003.

In the *EU area*, banks operating profits generally increased in 2003. Based on the interim reports of large financial groups, the trend of improving results seems to have continued in early 2004 (Charts 11–13).[7]

[4] Federal Deposit Insurance Corporation Outlook, Autumn 2004).

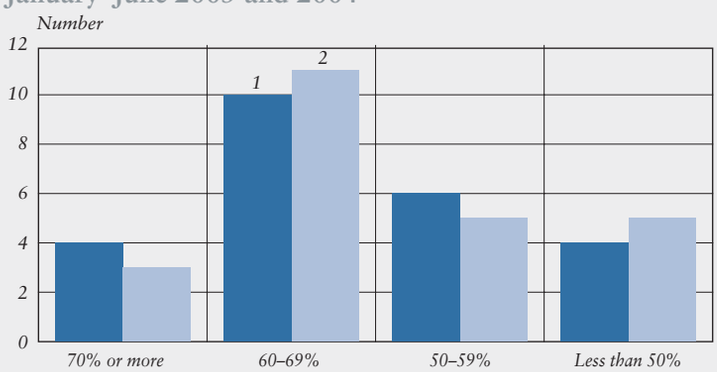
[5] For example, calculated on the basis of interim reports by the seven largest Japanese banks, the stock of non-performing assets amounted in spring 2004 to about EUR 106 billion, that is, 5.7% of the loan stock.

[6] Peoples Bank of China News (August 2004).

[7] Charts 11, 12 and 13 include the following (24) large European financial groups: Abbey National, ABN AMRO, AIB, Banca Intesa, Bank Austria, Barclays, BBVA, BNP Paribas, Credit Agricole, Commerzbank, Deutshe Bank, Dexia , Dresdner Bank, Erste, Fortis, HBOS, HSBC, HVB, ING, Lloyds TSB, Rabobank, RBS, SCH and Societe Generale.

Chart 11.

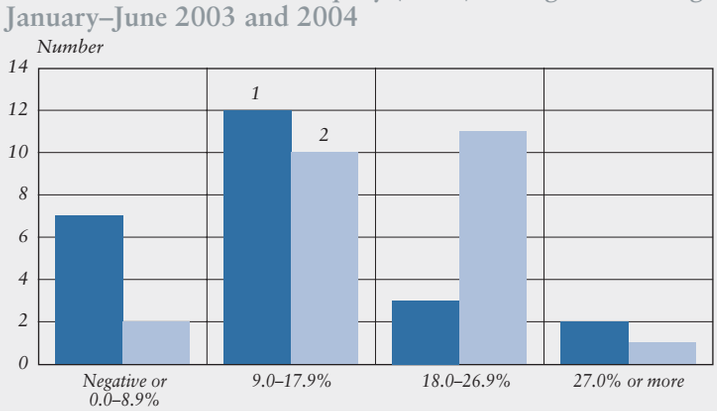
Distribution of cost/income ratio of large financial groups in the EU area, January–June 2003 and 2004



1. January–June 2003
2. January–June 2004
Source: Interim reports.

Chart 12.

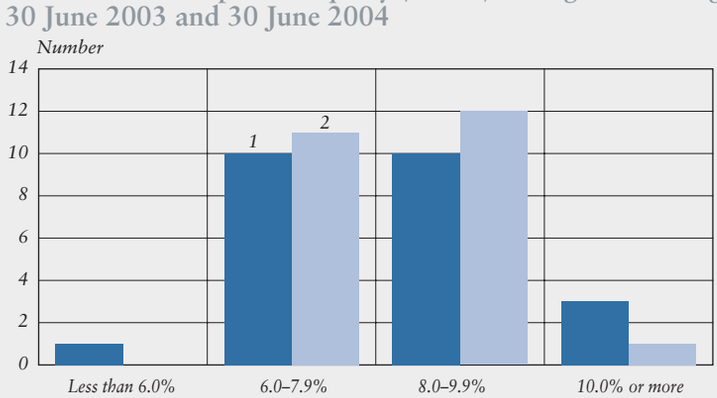
Distribution of return on equity (ROE) of large financial groups in the EU area, January–June 2003 and 2004



1. January–June 2003
2. January–June 2004
Source: Interim reports.

Chart 13.

Distribution of capital adequacy (Tier 1) of large financial groups in the EU area, 30 June 2003 and 30 June 2004



1. 30 June 2003
2. 30 June 2004
Source: Interim reports.

The low level of interest rates and competition between banks, particularly in lending, has narrowed margins in banking, and therefore net interest income has developed poorly. However, loan stocks have grown, supporting net interest income and profits. Without lending growth, profits would have been smaller. Banks have been able to increase commission and fee income, which means that non-interest income has developed positively. Cost cutting and low loan-loss provisions have supported profit growth. Profit growth has in turn contributed positively to capital adequacy, loss buffers and banks' market values (Chart 14).

The risk outlook for banks in the EU area is generally favourable at the moment. In 2004, banks' credit ratings have on average improved, reflecting their improved condition.

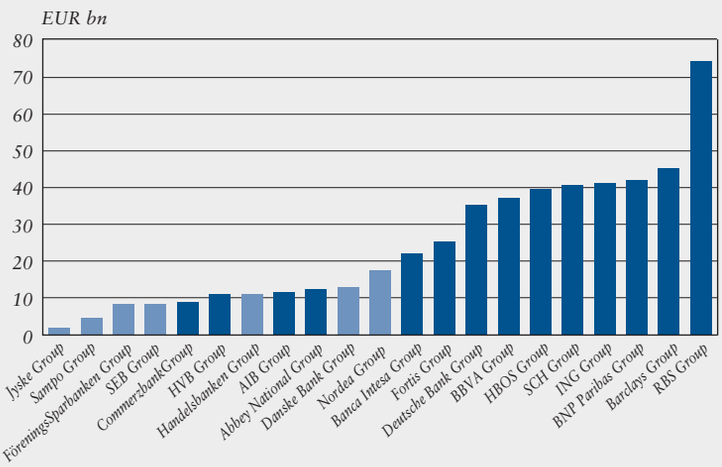
According to a survey[8] conducted with banks, a net easing of credit standards applied to companies and households has occurred in the euro area in the second quarter of 2004 for the first time since January 2003. According to the same survey, there are signs of loan demand growth in both the corporate and household sector. Loan stock growth supports banks' profits.

Banks' bright risk outlook may be clouded by many factors. First, good results have been supported by a relatively rapid growth of balance sheets amid low interest rates. In many countries, lending to the household sector (particularly for

[8] ECB, Bank lending survey (August 2004).

Chart 14.

Market capitalisation of large financial groups in the EU area, 30 June 2004



Source: Bloomberg.

house purchases) has increased rapidly. In the long term, operating profits cannot be sustained relying merely on interest rates and loan stock growth staying at the levels of 2003-2004. From the viewpoint of the general stability of the financial system and favourable overall development of the economy, it would be desirable that the focus on lending would shift towards financing corporate investment.

Second, potential rise in interest rates would entail both direct and indirect impacts on banks. The direct impact is contingent on the interest-rate sensitivity of deposits, loans and bond portfolios. A rise in interest rates would probably widen banks' interest rate margins but would lead to a need to write down the values of trading portfolios. The growth of loan stock in many European countries has outpaced the growth of the deposit stock, so banks have funded lending directly from the money and capital markets. A rise in interest rates will mean increased financing costs with a negative impact on profits. The indirect impacts are related to a deterioration of customers' debt-servicing ability in the event of a rise in interest rates.

The third factor with potential negative effects on the outlook is a weaker-than-expected economic growth, which would increase banks' credit risks and hinder other possibilities to achieve good results.

Yet another challenge to the operations of European banks is posed by preparation for the entry into force of the IFRS accounting standards in 2005 and the Basel II capital adequacy framework at the end of 2006 (more details in Box 2). In this respect, the coming years will be a sensitive period, and an unexpected shock in the financial markets could prove particularly harmful for the stable functioning of the financial markets at the early stages of the IFRS and Basel II reforms.

Stability outlook for Nordic and Baltic banking is favourable.

Also in the *Nordic and Baltic countries*, banking operations and stability outlook have developed in many respects similarly to the rest of Europe. Profit development has been strong, sometimes even outstanding (Charts 15 and 16).

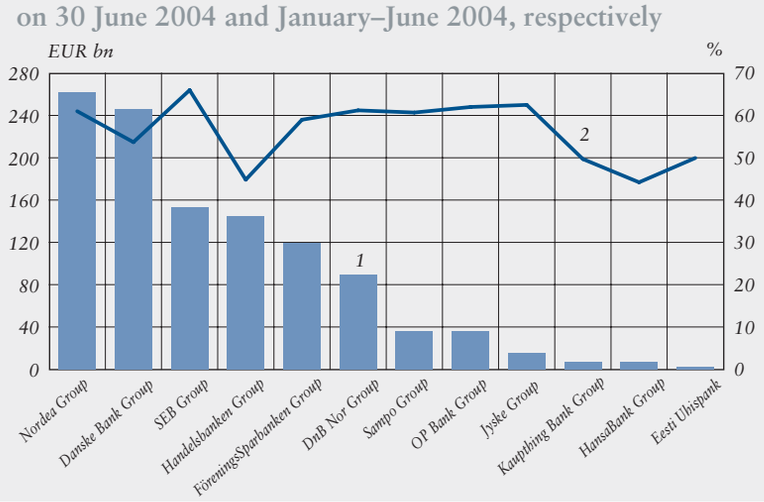
The cost-efficiency of large Nordic financial groups, measured by the cost/income ratio, has been above the European average for a long time and has continued to improve in early 2004 (compared to the entire 2003). Similarly, profitability measured by return on equity is at a good level, and it mainly improved in large financial groups in early 2004 in comparison to the corresponding figures in 2003. Capital adequacy measured by Tier 1 capital is 7% or more among large Nordic and Baltic financial groups. The general level of capital adequacy and other key figures among financial groups is good, although there may be substantial variation across financial groups. Similarly, stock price developments

differ greatly from one bank to another (Chart 17).

Banking operations in Nordic and Baltic countries are presently characterised by growing optimisation of capital use, so own shares have been bought back by many banks. Another distinctive feature is the intense price competition in the housing loan market. Growth of the loan stock has been funded, in addition to deposits, from the capital

Chart 15.

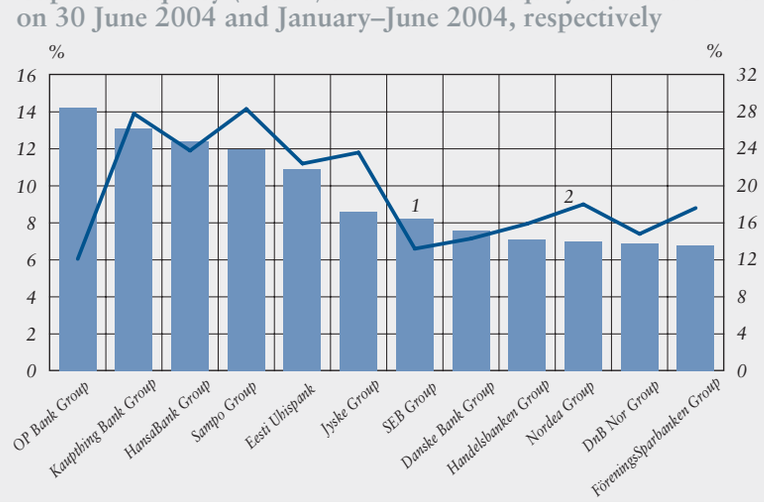
Balance sheet total and cost/income ratio of Nordic and Baltic financial groups, on 30 June 2004 and January–June 2004, respectively



1. Balance sheet total (LHS)
2. Cost/income ratio (RHS)
Source: Interim reports.

Chart 16.

Capital adequacy (Tier 1) and return on equity of Nordic and Baltic financial groups, on 30 June 2004 and January–June 2004, respectively



1. Capital adequacy, % (Tier 1) (LHS)
2. Return on equity (ROE), % (RHS)
Source: Interim reports.

markets. Nordic banks' risks related to funding are low at the moment due to, for example, good credit ratings. As regards the Finnish banking system, it is noteworthy that the external assets and liabilities of the banking system are mostly from other Nordic countries.

In the long term, overall development of the economy and its impact on credit risks for example are highlighted when assessing the stability of the financial system. Credit losses recorded by the largest banks in the Nordic countries have been exceptionally low in the past five years, although they have shown some cyclicality resulting from economic conditions. The optimisation of the amount of banks' capital in turn highlights the fact that profitability must be based on efficiency and sustainable business concepts instead of short-term one-off profit improvement schemes.

International insurance sector

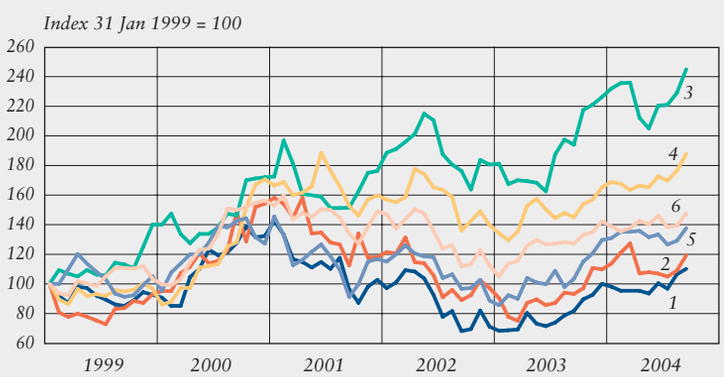
After several poor years, the financial performance of international insurance companies strengthened in 2003, and their solvency improved. Financial performance in the insurance sector, nevertheless, varies considerably across individual companies and groups. Non-life insurers have been successful in raising premium income, while at the same time cutting expenditure. Investment income also improved for many companies in response to rising share prices. The performance of European non-life insurers has been furthered bolstered by the avoidance of any sizeable claims expenditure that would have eroded results, whereas non-life insurers in the United States will face claims resulting from the devastation caused by this autumn's series of hurricanes.

Optimisation of capital use in conditions of tight price competition.

The improvement in investment income also boosted the financial

Chart 17.

Stock prices of Nordic financial groups, 1999–2004



1. Nordea
2. Sampo
3. OKO
4. Den Danske Bank
5. SEB
6. Svenska Handelsbanken
Source: Bloomberg.

Financial performance of insurance companies improved.

results of life insurers. An increase in long-term interest rates would strengthen their position and make them better equipped to meet the return requirements of previous guaranteed-return policies in respect of new bond investments. In several countries, steps have been taken to lower the rate of interest on guaranteed-return policies to address the difficulties faced by life insurers in attaining the required rate of return on their investments. In their issuance of new policies, life insurers have sought to raise the proportion of unit-linked policies accounted for in premiums written. However, the position of life insurers with a high volume of guaranteed-return policies remains vulnerable. Falling or unchanged long-term interest rates would continue to erode the position of many European life insurers in the future.

The outlook for the European reinsurance business improved in 2003 after several hard years. For example in 2002 the reinsurance sector suffered considerable investment losses and paid huge damages in settlement of claims arising from the floods that hit Central Europe. Rising share prices, together with a favourable development in premiums written, boosted the profitability of the reinsurance sector in 2003. Several poor years have, however, left the sector vulnerable.

The portfolio structure and risks of the insurance sector have undergone changes over the past few years. Many insurance companies have reduced the weight of equity holdings in their asset portfolios in favour of fixed interest holdings, which has clearly reduced equity risks in the sector. However, insurance companies have continued to build up capital and strengthen solvency through share issues. Portfolio risks in the insurance sector have also changed in response to the diversification of holdings across new vehicles, such as hedge funds and high-yield bonds, undertaken by insurance companies consistent with other institutional investors. Investment in credit derivatives has also picked up. However, the new investment vehicles still play such a minor role for the entire investment business that they are not expected to cause any major threats to the insurance sector.

Changes in the regulatory framework will present a challenge to the insurance sector as well as to the banking sector over the next few years. The solvency requirements for insurers will be revised in line with the Solvency II regulations, while the adoption of International Financial Reporting Standards (IFRS) will bring some additional changes, at least for listed insurance companies.

Development of international regulation and supervision

The prevention and management of crises in the international financial system are major issues to be addressed in the cooperation between national supervisory authorities. The need for cooperation has become more pronounced ever since the 1980s, in step with the proliferation of crises and disruptions in financial markets and the higher risk of emergencies.

The Financial Stability Forum (FSF) set up by the leading developed countries and international organisations provides a key framework for cooperation between the authorities to promote financial stability.[9] The FSF's current assessment of the stability of the international financial system is fairly favourable. The assessment is primarily based on the improved macroeconomic outlook and the stronger balance sheets of financial institutions. The Forum also monitors progress in several specific issues surrounding the financial system. Over the past few months, its agenda has covered topics such as more effective implementation of common regulatory standards around the world, the impact of the emergence of credit risk transfer markets, closer convergence of good corporate governance and accounting standards, the increase in hedge funds and the importance of offshore financial centres.

[9] For more information, see the Bank of Finland's Financial Markets Report No. 2/2004.

The Financial Sector Assessment Programme (FSAP) jointly operated by the International Monetary Fund (IMF) and the World Bank is designed to help individual countries improve financial stability and crisis resilience. At approximately five-year intervals, a country assessment is undertaken within the framework of the programme to identify the strengths and vulnerabilities of a country's financial system, the effectiveness of supervision and regulation, and the country's compliance with international standards. Country assessments are updated in connection with the Article IV Consultations undertaken by the IMF. In the period January–September 2004, 85 country assessments were updated. The assessments, together with the recommendations made, have resulted in concrete measures being taken in target countries. For example Japan, Germany and Sweden have reformed their securities clearing and settlement systems as a result of the FSAP assessment.

Gradual implementation of new rules for calculating capital adequacy will start in 2006–2007.

In addition to the new International Financial Reporting Standards (IFRS) taking effect at the beginning of 2005 within the EU (Box 2), another major international regulatory reform, the Basel II Framework, was completed in June 2004. Implementation of the new rules for calculating capital adequacy in line with the Basel II Framework will gradually start in 2006–2007. With the adoption of a new Directive,

the rules will apply to all banks and investment firms within the EU.

The reform makes for much closer convergence of capital requirements and risk exposures. With the reform, especially the assessment of credit risks, operational risks and risks related to securitisation will be improved. Banks will, for example, be allowed to apply their own internal credit ratings to the determination of risk exposures.

Basel II may have surprising consequences for market liquidity.

Although the Basel II Framework is, in principle, a significant leap towards enhancing banking sector stability, its practical implementation involves great challenges. Furthermore, the risk-sensitive approaches to capital requirements may have surprising consequences for market liquidity and the cyclicality of lending in conditions of economic downturn. The maintenance of minimum capital levels in bear markets may increase the pressure to sell, which may lead to an accelerating downward spiral of falling prices. The extension of fair value measurement to an increasing number of instruments in connection with the adoption of IFRS may work in the same direction. It is therefore widely held that liquidity risk would have deserved more attention within the new capital adequacy framework.

However, the introduction of common standards for capital adequacy calculation and public disclosure in line with them is designed to enhance the conditions of market discipline, ie to improve the supervision of banks undertaken by investors, creditors and counterparties. Market discipline will improve above all because of the new standards facilitating comparison of actual risk exposures across institutions.

The successful implementation of the Basel II Framework calls for adequate harmonisation of supervisory practices. For example the Internal Ratings Approach to capital adequacy calculation may in practice result in different capital adequacy requirements across individual countries in the context of diverging supervisory practices, with possible consequences for the choice of domicile for financial institutions. The newly established Committee of European Banking Supervisors (CEBS) faces a challenging task in ensuring that the decentralised European banking supervision takes a sufficiently concerted approach to this issue.

The international debate on the promotion of good corporate governance has continued. The Parmalat case in Italy showed that the problems are not confined to US markets alone.

The corporate scandals have fuelled a debate on the possibility of regulating public credit rating agencies. The rating industry is said to have failed to have lived up to expectations in the case of the large corporate scandals, considering that many agencies continued to give the failed companies good ratings for a long

time. The integrity of the rating agencies has been called into question, referring to their dependence on the rated companies for their income. The Committee of European Securities Regulators (CESR) has been asked by the European Commission for technical advice on the possible need for regulation of rating agencies. The Securities and Exchange Commission (SEC) and the International Organization of Securities Commissions (IOSCO) have also undertaken their own reviews. Arguments in defence of the rating agencies hold that the rating methodologies applied by the industry are not suitable for fraud detection, which would have been necessary in the context of the corporate scandals of recent years.

The highly centralised provision of credit rating services, however, strikes out. The authorities should therefore focus on measures boosting competition in this sector.

The debate that has surfaced over the regulation of rating agencies is only one example of the broad range of areas addressed by the authorities to effect changes in the aftermath of the corporate scandals. Although broad-ranging discussions are as such welcome, some of the measures may be ill-directed or ineffective. In the international conference on the Structure of Financial Regulation organised by the Bank of Finland, Professor Charles Calomiris of the University of Columbia emphasised that the losses arising from the scandals caused by corporate management have primarily been borne by the shareholders. The corporate scandals are thus proof of insufficient shareholder control. As Professor Calomiris pointed out, institutional investors have very limited means of exercising corporate control even in leading markets such as those of the United States. This is for example due to various investment restrictions. Although these investment restrictions have been introduced with important goals in mind, such as ensuring adequate risk diversification, the trade-off may be weakening owner control in companies. Effective owner control ultimately involves the possibility of replacing the operating management if it fails to meet expectations.

The regulation of hedge funds has been lively debated. It is important to raise public awareness of the composition of hedge fund investments, considering that an individual fund may grow into such a major player in a certain market segment that it threatens market liquidity. We only have to look at what happened to LTCM a few years ago. However, the market presence of unregulated participants such as hedge funds may also work to the benefit of market liquidity. For the very reason that they are unregulated, these funds gain room for manoeuvre so as to enable them to supply liquidity to market needs under conditions where other participants

Raising public awareness of the composition of hedge fund investments is important.

Financial stability issues highlighted in European discussions.

are forced to dispose of their holdings for example because of the capital adequacy requirements.

As a consequence of the business abuse that has come to light, measures are also being taken in the United States to step up the regulation and supervision of mutual funds. The funds have for example been accused of favouring their biggest customers and brokers at the expense of the average fund investor. Furthermore, the fee structures of the funds are highly opaque. Public disclosure of fee structures is being introduced, and the number of impartial members on the boards of fund management companies is being increased. In the course of the present year alone, SEC has considered the introduction 16 new regulatory measures in all. However, for example the planned board restrictions have been criticised with arguments that fully independent board experts are simply hard to find.

In the United States, the abuse by some investment banks and the accounting irregularities surrounding the large housing finance providers of Fannie Mae and Freddie Mac have also been widely debated. Because of the irregularities, demands for changes in the regulation and supervision of housing finance providers have been raised. The debate shows that the transparency of corporate financial statements still leaves much room for improvement. Greater transparency would be in the interest of effective market discipline.

In recent years, there has been a greater focus on financial stability issues in the discussions between European institutions and bodies of cooperation. In keeping with the decision of the Ecofin Council in 2002, the EU's Economic and Financial Committee (EFC) launched regular discussions on financial stability issues of key importance for the European Union.

Over the past few years, financial market regulation within the EU has been dominated by three major projects: the Lamfalussy process and the EFC's report on financial regulation, supervision and stability within the EU built on the Lamfalussy framework, (for closer detail see Box 1), as well as the Financial Services Action Plan (FSAP) of the European Commission.

The Financial Services Action Plan, which was launched in 1999, is primarily designed to promote the integration of European financial markets but it is also aimed at consolidating the regulatory and supervisory framework of the EU. Originally, the Action Plan comprised 42 projects, most of which were legislative initiatives, ie directives and regulations. Completion of all the projects by 2005 was foreseen in the Action Plan. Nearly 40 of the projects have already been completed but some important reforms are still underway, such as the revision of the minimum solvency regulations for insurers (Solvency II). National imple-

mentation of the projects will obviously take several years.

Although the final implementation of the Action Plan is a long way off, the European Commission has launched a follow-up plan for the further promotion of the integration and effectiveness of European financial markets (post-FSAP). Implementation of this follow-up plan is scheduled to start in 2005. In view of the launch of the follow-up plan, the Commission set up four expert groups, representing the banking, insurance, securities markets and asset management sectors, to review the benefits achieved by the Action Plan and major needs for legislative reform. The discussions following the groups' reports are expected to address issues such as the role of home and host country regulators in the supervision of cross-border financial institutions and the need for harmonisation of supervisory practices across countries, as well as the improvement of the crisis management processes of banks operating across borders.

Box 1.

The Lamfalussy Process

In July 2000 the Council of Economic and Finance Ministers of the European Union (ECOFIN Council) set up a specific working group to assess how EU securities market regulation could be improved. This working group is known as the Committee of Wise Men and was chaired by Alexandre Lamfalussy. Within the EU the aim has been to reform financial markets regulation in line with the approach proposed by the Committee in 2001. This process is referred to as the 'Lamfalussy Process', and it is designed to intensify and speed up the preparation and application of regulation within the EU. The European Parliament approved the Lamfalussy process in November 2002 and proposed that it also be extended to the banking and insurance sectors. The process has already been widely implemented.

The Lamfalussy process takes a four-level approach to the development of regulation:

– Level 1 comprises directives and regulations, and these should concentrate on key principles only. So-called framework directives are included in the Level 1 legislation, and the European Commission is to complete these directives with more detailed regulations. They also define the scope of the powers granted to the Commission.

– Level 2 comprises more detailed legislation, often technical in nature. They are adopted by the Commission which is assisted by Level 2 committees. These committees are composed of member state's high-level representatives and chaired by a Commission representative.

– Level 3 work is undertaken by committees of supervisors. These Level 3 committees are advisory bodies which can offer the Commission expert services either at the Commission's request or on their own initiative. They also enhance the uniform implementation of directives in the member states and the exchange of information between supervisors.

– Level 4 concerns the Commission's and member states' task to improve the application and enforcement of the EU regulation.

Since implementory powers are delegated to the Commission and Level 2 committees under the Lamfalussy process, there is no longer need to include all regulations within the directives which would be subject to the co-decision procedure.

The Committee of European Securities Regulators (CESR) is the oldest Level 3 committee. It was established by a Commission decision as early as 2001. In November 2003 the Commission decided to establish, on the proposal of the European Parliament and the EU Council, two other Level 3 committees in line with the Lamfalussy process: the Committee of European Banking Supervisors (CEBS) and the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS). These committees took up their duties soon after the Commission decision. Each Level 3 committee has a permanent Secretariat. The CEBS Secretariat is based on London, the CESR Secretariat in Paris and the CEIOPS Secretariat in Frankfurt.

The European Securities Committee (ESC) established in 2001 is the oldest Level 2 committee. Decisions on establishing two other Level 2 committees have already been adopted. In November 2003 the Commission decided to establish the European Banking Committee (EBC) and the European Insurance and Occupational Pensions Committee (EIOPC). These decisions (2004/10/EC and 2004/9/EC) do not enter into force until the functions of the old advisory banking and insurance committees have been abolished by a directive adopted under the co-decision procedure. The required amendments to

directives have already received sufficient political support. In March/April 2004 the European Parliament approved an amended proposal for a directive on this issue. On 11 May 2004 the EU Council reached an agreement on the directive as amended by the European Parliament. At the time of writing this report (September 2004), although the directive had not yet been adopted, its adoption was almost certain.

In June 2002 the European Parliament, the EU Council and the European Commission set up an Inter-Institutional Monitoring Group to review the functioning and progress of the Lamfalussy process. According to the Group, the Lamfalussy process has been very effective as regards enhancing financial market legislation. The Group recommended a wide use of Level 2 regulation and avoidance of too detailed legislation. The experiences are naturally limited to securities market regulation, since the process has not yet been applied to banking and insurance sectors.

Box 2.

The Accounting Standards Reform within the EU

New International Financial Reporting Standards (IFRS) will be introduced within the EU at the beginning of 2005 and apply to all listed companies preparing a consolidated financial statement. Member states may also choose to permit companies other than listed companies to prepare their financial statements in line with the new standards. The reform, which is in agreement with the standards issued by the International Accounting Standards Board (IASB), is designed to enhance the information content and improve the transparency of financial statements.

A key element of the reform, IAS 39[1], is related to the measurement of financial instruments in financial statements, which is especially relevant for the banking and insurance sector. Current practice still is that many financial instruments are valued at cost, which does not necessarily provide a fair view of the actual financial position of the company or financial institution. With the reform, fair value accounting will be introduced for example for derivatives and underlying hedged instruments.

The measurement of financial instruments is an important issue also from the point of view of achieving adequate convergence between EU and US financial reporting requirements. In the United States, the fair value principle is already applied to derivatives for example. In order for the Securities and Exchange Commission (SEC) to recognise IFRS without imposing any significant additional requirements on European companies

[1] *IAS = International Accounting Standards.*

listed in the United States, adequately comprehensive adoption of the reform in the field of financial instruments must be ensured.

Despite its obvious advantages, the financial reporting reform, and especially IAS 39, has also met with strong criticism from banks and prudential supervisors at the preparation stage. The criticism is that the fair value measurement of many financial instruments would introduce artificial volatility in banks' results and balance sheets, if measurement is based on highly illiquid markets.

In its opinions, the European Central Bank has emphasised that efforts should be taken to ensure that the reform does not cause unnecessary volatility in banks' financial results. This might have adverse consequences on financial stability.

In response to the concerns raised, the provisions governing the measurement of financial instruments have been specified by introducing a fair value option, which defines the financial instruments to which fair value accounting may be applied, in addition to those to which fair value accounting must be applied. One of the key criteria in this context is adequate verifiability of the fair value of the financial instrument. The fair value option excludes many financial instruments, such as bank loans. The revised IAS 39 issued by the IASB allowed for introduction of the fair value option, with an Exposure Draft for the limited amendment of IAS 39 published in April 2004.

Another concern is the practice of many banks to use interest rate swaps to hedge against risks related to net interest income, which therefore constitutes a portfolio hedge. On this issue, the IASB published a new Exposure Draft in March 2004 and set up a working party to review the hedge accounting methodology.

At the beginning of October, the EU Accounting Regulatory Committee (ARC) endorsed the proposal of the European Commission serving as a basis for the European Commission Regulation on the adoption of IAS 39 within the EU. According to the proposal, IAS 39 will be introduced subject to some amendment. The fair value option cannot be applied to financial liabilities and, hence, not to core deposits. However, the hedge accounting criteria for core deposits were revised, with a view to facilitating interest rate risk hedging of core deposits using derivatives.

The forthcoming EU Regulation received immediate criticism for the discretion allowed to member states and companies to apply IAS 39 to portfolio hedging of core deposits, which was said to be a potential source of inconsistencies.

The present Regulation can be considered an interim compromise, allowing for the implementation of the new standards from the beginning of 2005. It is likely to be revised as necessary when the IASB has completed its review of the fair value option and the hedge accounting methodology.

Long-term trends in international financial markets encourage a changeover to fair value accounting and extension of the range of financial instruments covered by this accounting methodology. For example the development of the credit risk transfer markets, which were previously highly illiquid, together with the introduction of new pricing and risk management methodologies, provide better scope for fair value measurement. The greater transparency of companies' and banks' balance sheets achieved by fair value measurement serves to promote market discipline. Over time, this will contribute more to financial stability than the traditional approach to using financial reporting standards to achieve stability of financial results and balance sheets.

Domestic operating environment

Expected near-term economic developments in Finland create a favourable environment for the functioning of the domestic financial system. Key short-term risks relate to spillover effects of global problems onto the Finnish economy. Over a longer horizon, the challenge is to safeguard the vitality and investment ability of the Finnish economy, particularly the corporate sector. There are no signs of rising credit risk in the corporate sector, owing to improved cyclical conditions and companies' good financial position. Household sector indebtedness and related risks have increased but are still within reasonable limits.

Finnish economic growth supports financial stability in the near future.

Estimates about Finland's near-term economic growth do not give rise to any immediate concerns about the stability of the financial system. The Bank of Finland estimates real economic growth to be 3.0%, 3.2% and 2.7% in 2004, 2005 and 2006, respectively.[1] Following the decline of previous years, private investment is estimated to grow by 3.1% in 2004 and to continue to grow in both 2005 (by 2.3%) and 2006 (by 3.7%). The forecast is based on an estimated rise in interest rates in line with market expectations. Although Finnish export growth has supported recovery of exports. Exports are expected to pick up, albeit at a slower pace than the growth of Finland's export markets. Moreover, the spillover effects of global economic disturbances to the domestic real economy, and to the financial sector indirectly, must also be taken into account.

From the viewpoint of the domestic financial system, long-term prospects give rise to more concern than the short-term outlook. Finnish investment has in recent years been rather modest, with the investment ratio being below that of the euro area for some time already.[2] Indeed, weak domestic investment raises the question whether there is enough scope for renewal in the Finnish economy in order for it to prepare for the challenges of globalisation and shifts in demand. If the economic production structure were to solidify and become unable to adjust to changes in international demand, conditions for productive operations and employment in Finland would diminish. In the financial sector, this would not only be reflected in increasing credit risks but also in subdued business opportunities in Finland and slow rise in lending.

Corporate sector

In early 2004, corporate investment took an upward turn, following a two-year decline, and is expected to

[1] For more information about overall economic prospects, see Bank of Finland Bulletin 3/2004.

[2] For more information about the investment outlook, see Bank of Finland Bulletin 3/2004.

grow in the next few years, albeit slowly. Indeed, corporate prospects have improved over the last 12 months, which will further boost investment activity. According to cyclical surveys[3] industrial confidence in particular has strengthened clearly from 2003, whereas changes in other sectors have been modest. On the other hand, a survey[4] conducted among bank managers in August showed that corporate interest in borrowing had increased from the previous year.

Development of corporate investment is important for the financial sector.

Corporate investment constitutes the most important and fastest changing part of all investment. Furthermore, investment constitutes the single most important use of funds acquired by corporations[5] and therefore has a material impact on the demand for financial services. A key question is how companies' ability and willingness to invest will develop over the long term. A major challenge for the Finnish financial sector is to adjust to changes in corporate investment activity. The need for the financial sector to develop and redirect its operations is influenced by the increasing flow of Finnish business operations and investment abroad.

Credit risk arising from the non-financial corporate sector, affecting the financial sector, will remain modest in the near future, owing to the improved cyclical situation and companies' good financial position.

Companies' indebtedness relative to GDP has developed at a relatively steady pace in recent years (Chart 18). Corporate debt has become slightly more dominated by domestic bank loans, while lending from abroad has decreased. Indebtedness is still considerably lower than in the early 1990s

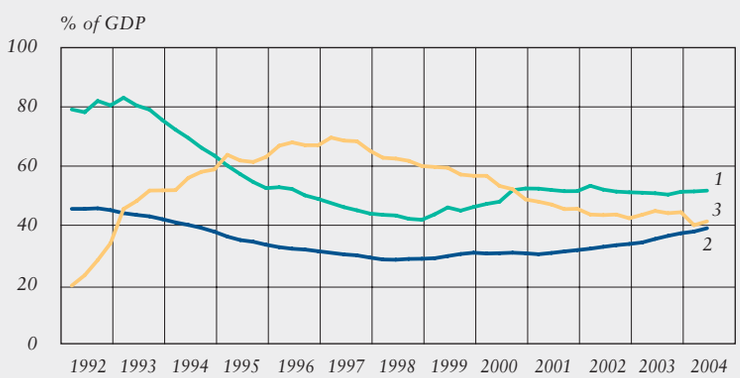
[3] The Confederation of Finnish Industries EK's confidence indicators (September 2004).

[4] The bank barometer of the Finnish Bankers' Association (2004/III).

[5] See, for example, the survey on manufacturing and service firms' financing arrangements, Bank of Finland, Confederation of Finnish Industry and Employers, and the Ministry of Trade and Industry (2003).

Chart 18.

Indebtedness by sector in Finland



1. Companies (excl. housing corporations)
2. Households
3. Central government
Sources: Statistics Finland, State Treasury and Bank of Finland.

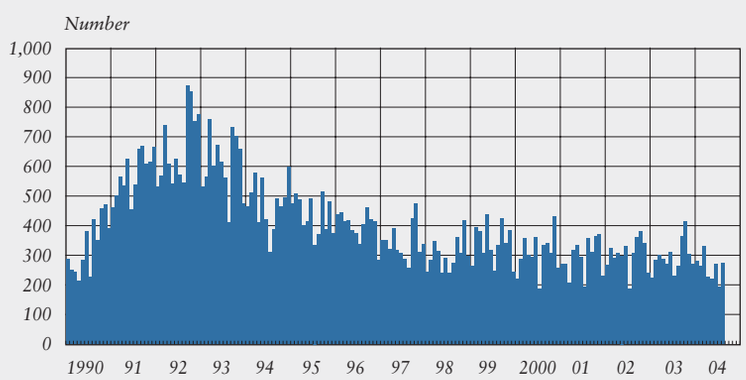
and very low by international standards. In contrast, corporate financial assets have taken a slight downward turn, which is an implication of companies' weaker average risk buffers.

There are no recent signs of increased credit risk from domestic companies. In January-August 2004, the number of bankruptcy applications declined by some 5%, year on year (Chart 19). Payment defaults have increased in recent years, but the latest data suggests that the growth has come to a halt.

Share prices and various market indicators derived from share prices are a good source of information concerning the prospects of the Finnish corporate sector. Of the key sectors of the Helsinki Stock Exchange, share prices in the metal industry have performed well in 2004 (Chart 20). In contrast, share price

Chart 19.

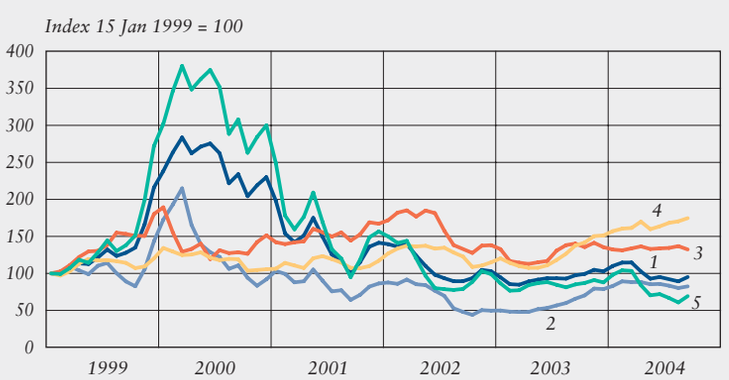
Bankruptcy applications in Finland



Source: Suomen Asiakastieto.

Chart 20.

HEX All-Share Index and key sectoral indices



1. HEX All-Share Index
2. Other services
3. Forest industry
4. Metal and engineering
5. Telecommunications and electronics
Source: Helsinki Stock Exchange.

performance in the telecommunication and electronics sector give a gloomier picture than average.

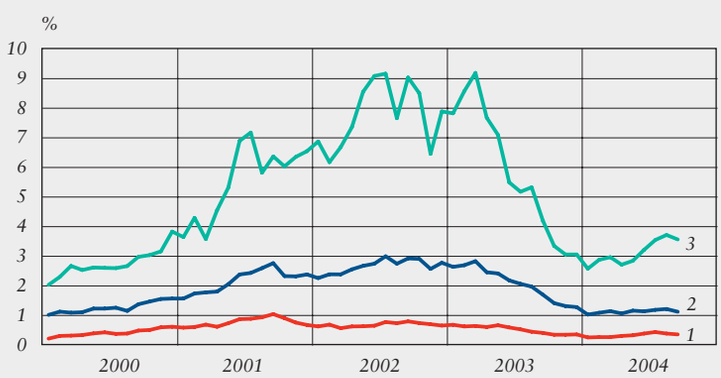
Expected default frequency (EDF) figures,[6] calculated on the basis of share prices and financial statement data, can be used in evaluating the condition of the corporate sector. Finnish listed companies' EDF figures for 2005 (Chart 21) suggest that risks from companies to providers of finance have declined considerably since spring 2003. A positive finding from the credit risk perspective is that EDF figures for companies performing weaker than average have declined. In Chart 21, this is illustrated by the graph for the 90th percentile: for 90% of the companies investigated in each period, EDF is below the 90th percentile.

Differences between EDF figures for companies representing key sectors diminished clearly until the beginning

[6] See footnote 3 in "International operating environment".

Chart 21.

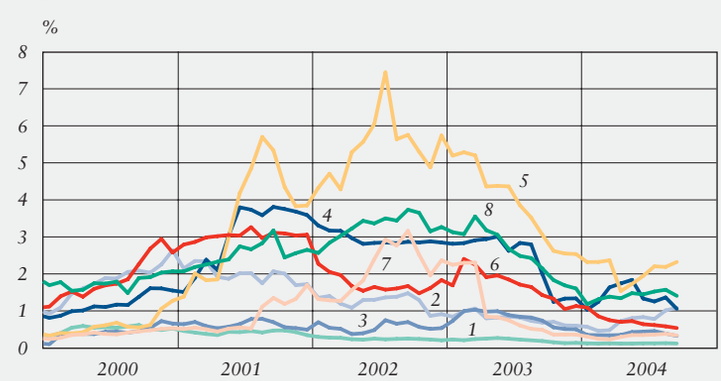
Expected default frequency (EDF) for Finnish listed companies



1. Median
2. Average
3. 90th percentile
Source: Moody's KMV.

Chart 22.

Expected default frequency (EDF) for Finnish listed companies by sector



1. Processed food industry
2. Forest industry
3. Chemical industry
4. Metal and engineering industry (excl. electronic industry)
5. Electronic industry
6. Trade
7. Transport (incl. telecommunications)
8. Real estate services and other business services
Source: Moody's KMV.

of 2004 (Chart 22). For example, the average EDF for electronics companies has clearly decreased in recent years, which gives a much more favourable outlook for the sector than examining share prices. This is partly due to the fact that the performance of individual companies is given a considerable weight in the sectoral share price index.

Household sector

Since 1998, the stock of lending to the household sector has increased faster than households' disposable income: in six years, households' debt ratio[7] has increased by more than 15 percentage points to 75% (Chart 23).

This notwithstanding, households' average indebtedness is still clearly below the levels seen at the turn of the 1980s and 1990s. Despite the higher debt burden, households' interest expenses have decreased in recent years along with the overall decline in interest rates.

Households' stock of housing loans relative to disposable income exceeds the level preceding the depression of the early 1990s. In contrast, the stock of consumer credits, study loans and other loans, which are mostly related to entrepreneurial activities of households, is considerably lower than at the end of the 1980s. Of all household borrowing, the stock of housing loans has increased at a steady pace during the last 10 years and accounted for approximately 70% at the end of June.

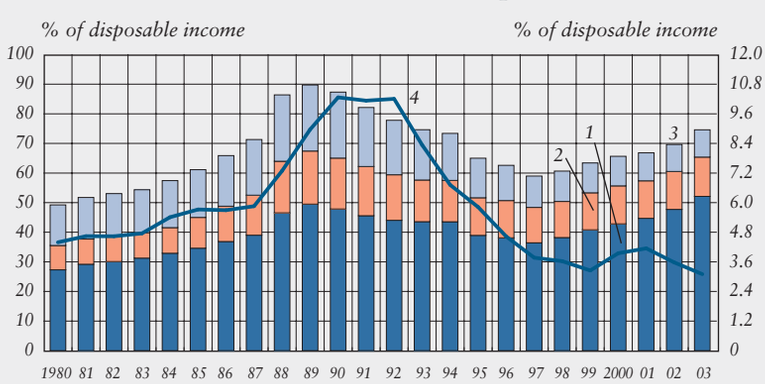
In fact, fast growth in household indebtedness has been characteristic to many countries in recent years. Housing loans in particular have risen rapidly as interest rates have declined and house prices have increased. There are, however, marked differences in debt ratios from country to country. In Finland, households' debt ratio is rather low compared to

Despite its rise, household indebtedness is still rather low.

[7] Year-end stock of lending to the household sector relative to annual disposable income.

Chart 23.

Households' indebtedness and interest expenses in Finland



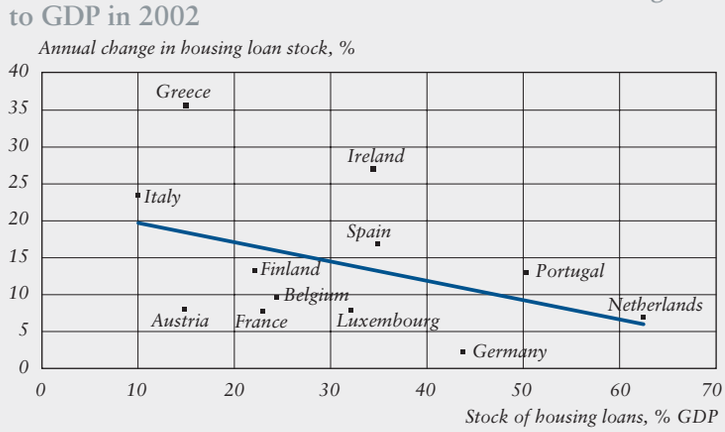
1. Housing loans
2. Consumer credit and study loans
3. Other loans
4. Interest expenses (RHS)
Sources: Statistics Finland and Bank of Finland.

other Nordic countries and most euro area countries (Chart 24).

The stock of Finnish households' housing loans has increased at an accelerating pace since 2001. In fact, in 2001-2003, annual growth was 12% on average, and it continued to rise strongly throughout early 2004. Housing loans granted by deposit banks and other monetary financial institutions rose by more than 15% in January-August, year on year. The demand for housing loans has been boosted by the historically low level of nominal interest rates, narrowing of interest rate margins, lower unemployment levels, favourable developments in households' real income and consumers' strong confidence in their own economy. Part of the rapid rise in housing loans can also be explained by the satisfaction of demand accumulated during the recession.

Chart 24.

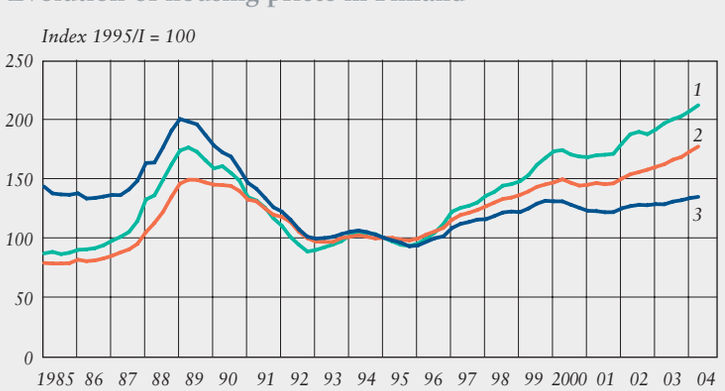
Growth rate and size of euro area households' housing loans relative to GDP in 2002



Sources: European Central Bank (Structural analysis of the EU banking sector, 2003) and Bank of Finland.

Chart 25.

Evolution of housing prices in Finland



1. *Housing price index in the Helsinki area*
2. *Housing price index elsewhere in Finland*
3. *Housing price index / earnings index*

Sources: Statistics Finland and Bank of Finland.

According to the results of a survey of bank managers[8] in August, the majority of banks are confident in household demand for new loans increasing or remaining the same for the remainder of 2004 and the early part of 2005, in comparison with the previous year. Consumer expectations concerning the affordability of borrowing were clearly more positive in September than the average since 1995.[9] A total of 72% of consumers considered the timing for borrowing was favourable, while 14% of households were planning to raise a loan in the next 12 months.

From early 2002 to June 2004, nominal house prices have increased at an annual rate of more than 7% on average. Although in June, average nominal house prices were more than 20% higher than at the end of the 1980s, the level of house prices relative to wage earners' earnings development was close to the long-term average (Chart 25). The fall in interest rates has boosted housing demand, but as the conditions for obtaining finance change, house price increase is expected to be modest in the next few years.[10]

As more than half of the euro-denominated loans granted by Finnish deposit banks and other monetary financial institutions have been granted to the household sector (Chart 31), major changes in households' deb-servicing ability will have an impact on the stability of the financial system. A key factor relating to the credit risk from households is the breakdown of the stock of loans among households. Individual households may be running debts that exceed their debt-servicing ability.

Individual households may be running debts that exceed their debt-servicing ability.

According to a survey broken down by households,[11] every second household had a housing loan, consumer credit, study loan or other type of loan in 2002. Housing loans had been taken by approximately 650,000 households, corresponding to 27%. Housing loan holders' average loan to income ratio was close to 120%, with annual debt-servicing expenses accounting for approximately 15% of disposable monetary income.[12] Roughly more than 8% of households with mortgages had considerably high debt-servicing expenses, ie more than 30% of income.

Nearly every second household of those having a housing loan had a loan equal to less than their annual disposable monetary income (Table 3).[13] Roughly more than 7% of households with a housing loan were considered highly indebted, ie their mortgages amounted to at least three times their monetary

[8] The bank barometer of the Finnish Bankers' Association (2004/III).

[9] Statistics Finland's consumer survey (September 2004).

[10] Bank of Finland Bulletin 3/2004.

[11] The results are based on the Income Distribution Survey of Statistics Finland. The calculations have been performed in the Ministry of Finance with the TUJA microsimulation model.

[12] The concept of disposable monetary income is slightly narrower than the scope of disposable income.

[13] For information on households' total stock of lending (housing loans, consumer credit, study loans and other loans), broken down by households, see Bank of Finland Bulletin 3/2004, Box 2.

income. These households accounted for nearly 17% of the total stock of housing loans. For the majority of households with a housing loan (67%), the size of the loan was less than EUR 60,000 and below their annual monetary income for two years. Roughly more than 8% of mortgage holders had large housing loans totalling more than EUR 100,000. Of these, more than every third household had taken out a loan that was more than three times their annual income, which can be a cause for concern. Fewer than 2% of mortgage holders had large housing loans totalling more than EUR 150,000. However, their share of the total stock of housing loans exceeded 7%, the result being that any problems in their debt-servicing ability would have an impact on lenders.

The average maturity of housing loans has lengthened and the average loan size increased.

According to an interview survey[14] conducted in April 2004, the average maturity of housing loans taken out in the last two years is 16 years compared to 11 years six years ago. During the same period, the share of housing loans with a maturity of at least 20 years has risen from 2% to 39%. The lengthening of pay-back times has enabled growth of average household loans. The survey shows that the average size of housing loans taken out in the last 12 months was EUR 80,000, and nearly a third of new housing loans amounted to more than EUR 100,000.

The use of consumer credit, which typically has much higher interest rates than housing loans, is also a possible risk factor in developments in household indebtedness. Banks and finance companies offer various types of consumer credit, the result being that consumers may find it difficult to compare the total cost of different credit products. In January-August 2004, the stock of consumer credit granted by Finnish monetary financial institutions grew at an annual rate of 12%. According to the interview survey, 34% of Finnish households had consumer credit in April 2004. Average total credit had increased significantly since January 2003.

[14] An interview survey by the Finnish Bankers' Association on saving habits and the use of credit (May 2004).

Table 3.

Number of households with a housing loan*, broken down by loan (EUR thousand) and debt ratio (%) in 2002**

%/EUR 1,000	*Less than 20*	*20–60*	*60–100*	*100–150*	*150–200*	*More than 200*	*Total*
Less than 100%	*28.7*	*17.8*	*0.6*	*0.1*	*–*	*–*	*47.3*
100–199%	*1.3*	*19.1*	*7.9*	*1.2*	*0.1*	*0*	*29.7*
200–299%	*0*	*4.2*	*7.8*	*3.4*	*0.3*	*0*	*15.8*
More than 300%	*0.1*	*1.3*	*2.7*	*1.9*	*0.9*	*0.3*	*7.2*
Total	*30.1*	*42.5*	*19.1*	*6.6*	*1.3*	*0.4*	*100*

** Percentage of all households with a housing loan.*
*** Housing loan, % of disposable monetary income.*
Sources: Statistics Finland and the Ministry of Finance.

Households' risk awareness appears to have grown in the last 12 months. The results of the interview survey show that the majority of households with a housing loan consider themselves prepared for an eventual rise in interest rates and the resulting increase in debt-servicing expenses. Moreover, increasingly more households have taken out payment protection insurance on their loans; the proportion of those with the insurance being commensurate to the size of the loan.

In contrast, the popularity of fixed-interest housing loans has decreased further, the result being that households with a housing loan subject themselves to a major interest rate risk. Although interest rates have been forecast to rise, households' confidence in the stability of short-term market rates appears to have remained strong. According to a survey[15] conducted among Finland's largest banking groups, only some 4% of the new housing loans granted in April were fixed-interest loans. More than 90% of the euro-denominated housing loans granted to households by deposit banks are tied to variable interest rates, ie to Euribor rates – 12-month rate being the most common – or to banks' own prime rates.

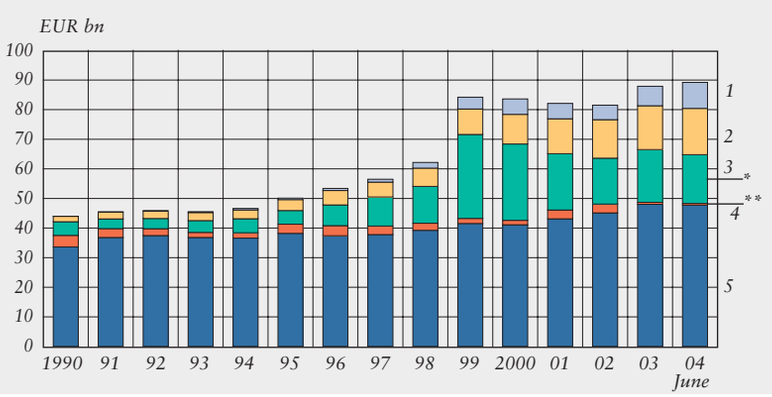
Floating-rate loans subject households to interest rate risk.

The total value of households' financial assets has risen by slightly less than 10% since 2002 (Chart 26). The relative importance of deposits has decreased despite an increase in total stock of deposits. In relative terms, investment in mutual funds and insurance has grown the most, while direct investment in bonds has decreased significantly. The value of equity assets varies according to changes in share prices; at the end of June, households' equity assets were lower than six months earlier but higher than at the end of 2002.

[15] A survey by the Financial Supervision Authority (FSA) on the impacts of competition in housing loans, see FSA Newsline 5/2004.

Chart 26.

Households' financial assets in Finland



1. Mutual funds
2. Savings in insurance policies
3. Shares
4. Bonds
5. Bank deposits
** Estimate.*
*** Preliminary data.*
Savings in insurance policies include private individuals' savings-related insurance and personal pension plans.
Sources: Finnish Bankers' Association, Bank of Finland, Statistics Finland and Federation of Finnish Insurance Companies.

Higher indebtedness has increased risks from households but do not pose a threat to financial stability.

However, growth in financial assets alleviates somewhat concerns over the increase in households' debt ratio. This positive impact is nevertheless weakened by the fact that, in the near term, only liquid assets bear any significance to the debt-servicing ability. Households' saving ratio turned positive in 2003, following a negative ratio for the last three years.

Risks to households' debt ratio have increased in the last few years as the rise in indebtedness makes households more vulnerable to financial disturbances, such as rises in interest rates and unemployment. Credit risks arising from households can escalate significantly if interest rates were to rise radically and income fall considerably, along with decreasing house prices and a major decline in the value of collateral. The greatest risks are associated with households whose debt-servicing expenses are already, at a time of low interest rates, close to their pay-back ability.

In 2003, private individuals' new payment defaults increased by 13% from the previous year (Chart 27). In the light of expected economic developments, however, the likelihood that credit risks endangering the stability of the financial system would materialise is very small. Stable economic growth and improvements in the employment situation support households' solvency.

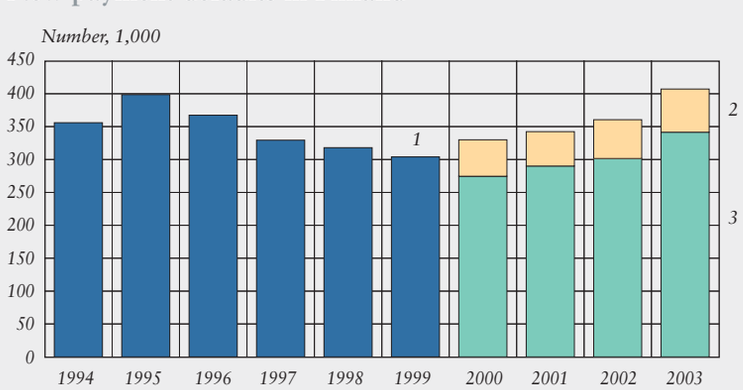
Domestic capital market

As regards acquisition of finance, domestic financial markets have been quiet in 2004, even though bond issues on the domestic market by monetary financial institutions and non-financial corporations increased in January-August, year on year (Chart 28).

Companies' good profitability and low level of investment are reflected in modest acquisition of financing from the markets. For example, despite the gross growth of bond issues, companies' stock of issued bonds has taken a downward turn this year. The volume of commercial paper

Chart 27.

New payment defaults in Finland



1. Total
2. Companies
3. Private individuals
Source: Suomen Asiakastieto.

issued by companies has also decreased somewhat. Instead of acquiring financing from the markets, companies' borrowing from monetary financial institutions has long grown at an annual rate of approximately 8%.

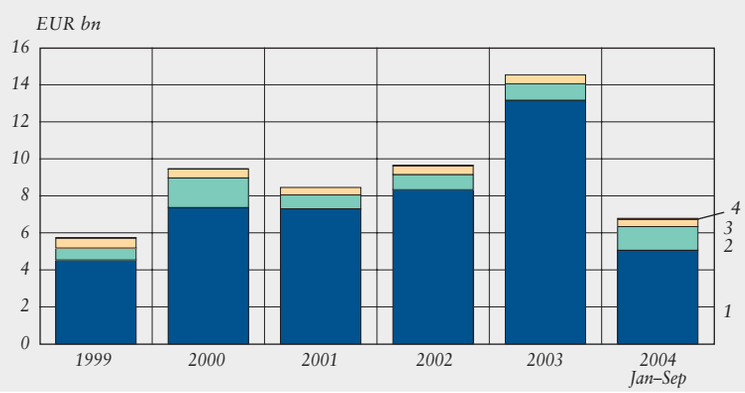
Alongside domestic bond emissions, banks have raised a considerable amount of financing from international bond markets. Banks' stock of credit has grown faster than their stock of deposits, and banks have also increasingly used the bond market for acquisition of funds. For example, Sampo's purchase of If P&C Insurance Company Ltd has partly been financed by funding raised from the international bond market.

The central government's net borrowing requirement has been low, with the stock of loans remaining stable for quite a while.

Companies' equity financing has continued to be low this year. Share

Chart 28.

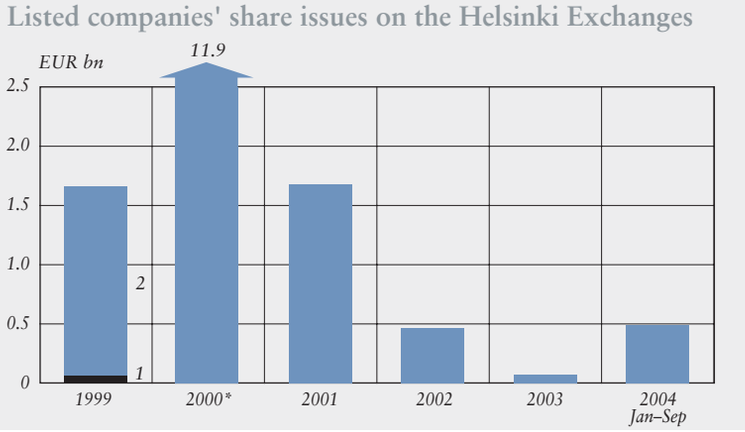
Bond issues in Finland



1. Companies
2. Financial institutions
3. Local government
4. Central government
Sources: Financial Supervision Authority and State Treasury.

Chart 29.

Listed companies' share issues on the Helsinki Exchanges



1. Financial institutions
2. Companies
** Merger of StoraEnso and Consolidated Paper, EUR 8.6 bn*
Source: Helsinki Stock Exchange.

Companies have raised little money from the market.

issues have largely been small-volume private placements. There has been only one major public share issue this year, and there was also the first initial public offering for many years (Chart 29).

Trading on the Helsinki Stock Exchange has picked up from last year, with January-September trading accounting for nearly a third more than in the previous year. However, trading on the Helsinki Stock Exchange is exceptionally narrow: trading in Nokia shares alone accounts for nearly 70% of total trading, and the share of ten most-traded shares is nearly 95%. Share prices on the Helsinki Stock Exchange have traditionally fluctuated more than on the stock exchanges of other industrialised countries. During the boom in ITC sector shares, trading was heavily concentrated on selected companies, thereby increasing volatility further. When trading in other listed shares is weak, trading in large round lots can have a considerable impact on share prices, the result being that investors' interest in such shares remains weak. The structure of share trading is therefore particularly difficult for companies considering an initial public offering. Such circumstances also prevent development of the venture capital market, because disinvesting through initial public offerings can be difficult.

Share price performance on the Helsinki Stock Exchange has been fragmented this year (Chart 20). The index for the IT and electronics industry fell by 17% from January until the end of September, whereas the indices for the chemical and metal industries have risen by 22% and 17%, respectively. The indices for trade and the grocery sector, representing the domestic market, have risen at pace with the traditional manufacturing industry. Share prices for the banking sector have remained stable.

The valuation of shares listed on the Helsinki Stock Exchange as measured by the P/E ratios is close to the long-term average. For example, at the end of September, the P/E ratio for the HEX All-Share Index was slightly less than 17. The forest industry is the only sector where share prices are clearly above the long-term average.

Developments in domestic regulations and supervision

Nordea Group continued the simplification of its legal structure with the aim of establishing a European company to handle the Group's banking business.[16] The European Company Act entered into force on 8 October 2004, but Nordea's restructuring will be completed later. Establishment of the European company means that Nordea's present subsidiaries would become branches of the Swedish parent bank. As a result, in compliance with the principle whereby home country authorities are responsible for

[16] Nordea's restructuring process and the related supervisory and other challenges have also been described in the Bank of Finland Bulletin's special issue on financial stability (2003, Box 3) and the Bank of Finland Bulletin 2/2004, page 22.

prudential banking supervision, a major part of Finland's, Norway's and Denmark's banking sectors would be supervised by non-national authorities.

Overall, this development entails deeper integration of the Nordic financial services continuing and bringing core issues about regulation and supervision throughout the EU into discussion. Restructuring arrangements such as those under way at Nordea are a challenge to supervision, especially to the appropriate division of labour between home and host country authorities even in the present structure of subsidiaries. If a bank with a branch office in a certain country has an important market share and therefore plays a key role in the functioning and stability of the financial system of that country, it is justifiable that the role and powers of the host country authority were broader than what they are now. In the event of a crisis in particular, host country authorities should be ensured a means of being involved in the decision-making process. Nordic supervisory authorities have launched investigations concerning the impact of the restructuring on cooperation between supervisors. Nordea's restructuring arrangements have also raised the issue about the financial base of the Finnish Financial Supervision Authority (FSA).

Nordic central banks are also discussing the challenges posed by Nordea's restructuring, particularly as concerns crisis management of the financial system.

Following Sampo conglomerate's acquisition of nearly all the operations of the If Group, it became evident that the scope of supervisory cooperation in respect of Sampo had to be broadened to the Nordic level. The If Group is involved in the property and casualty insurance business. In accordance with the new memorandum of understanding, the Finnish FSA bears the primary supervisory responsibility for the Sampo conglomerate. It also coordinates supervision cooperation between the Finnish Insurance Supervisory Authority and the financial supervision authorities of Sweden and Norway.

This so called additional supervision is a means to concentrate on supervising group-level capital adequacy, risk concentrations, intra-group transactions and risk management procedures. It is based on a directive on the supplementary supervision of credit institutions, insurance undertakings and investment firms in a financial conglomerate, adopted in 2002.

All in all, financial conglomerates operating in several sectors are a challenge to the development of supervision and regulation. Because the integration of capital adequacy regulations between the banking and insurance sectors can take years, it is important that supervision contributes to the enhancement of market discipline. Markets need to have adequate and reliable information on the structure, operation and risks of the conglomerates.

Nordic restructuring arrangements are a challenge to supervisors and central banks.

Contingency planning is an important part of cooperation between authorities and market participants.

The minimum capital requirements of life and non-life insurance companies were altered, when the Insurance Companies Act was harmonised with the respective European Parliament and Council directives. The acts changed the definition of insurance companies' solvency margin and minimum capital requirements, among others. The Employee Pension Insurance Companies Act was also changed. Furthermore, the operating framework of the Insurance Supervisory Authority was clarified in situations where it considers that the interests of insurance takers or those insured are threatened.

The FSA and the Ministry of Finance have prepared regulations on the adoption of the IFRS standards (Box 2) in credit institutions and investment services firms. The regulations were included in the government bill put forward to parliament in June 2004. Publicly listed companies must prepare their consolidated financial statements in accordance with the IFRS, starting with financial periods commencing on or after 1 January 2005.

Finnish authorities are preparing themselves for banks' international capital adequacy reform (see page 23). In June 2004, the FSA announced and circulated for comments its first interpretations on what it will require from credit institutions and investment services firms with effect from the introduction of the new capital adequacy requirements on 31 December 2006. The interpretations were based on the European Commission's preliminary draft directive, which is in accordance with the main principles of the capital adequacy recommendation of the Basel Committee on Banking Supervision.

In September 2004, a working group composed of representatives of the Finnish authorities (Ministry of Finance, Bank of Finland and the FSA) and market participants announced a review of the financial implications of the capital adequacy reform. Preparation of the reform continues in the relevant working group of the EU Council, with legal preparations in Finland also under way.

Making contingency plans for ensuring the essential functions of the financial system in exceptional circumstances is also an important area where authorities and market participants are working together. Essential functions include currency supply, payment systems and banking services. In the wake of the Emergency Powers Act, revised in 2003, the Banking Committee of the National Board of Economic Defence has prepared a contingency plan for authorities and key market participants. The plan will be completed by the end of 2004. The FSA will prepare a supplementary guideline on the basis of the contingency plan.

The banking and insurance sector

The operating profit of the banking sector is strong, although low interest rates and persistently narrow interest rate margins on bank lending are decreasing banks' net interest income. Strong demand for housing loans, increased fee income and cost management have contributed positively to the banks' operating profits. Life and non-life insurance companies' earnings have also improved, reflecting a distinctive increase in financial conglomerates' operating profits. The capital adequacy of the Finnish financial sector is still good, on average. Outsourcing of activities, continued structural changes and forthcoming regulatory reforms highlight the importance of the monitoring of banks' operational and strategic risks. The current economic forecast suggests continued stability for Finland's financial sector. According to stress test calculations performed at the Bank of Finland, the banking sector's capital buffers would withstand clearly worse-than-forecast economic developments.

Banking sector's profitability and capital adequacy

Stable financial performance by the Finnish banking sector.

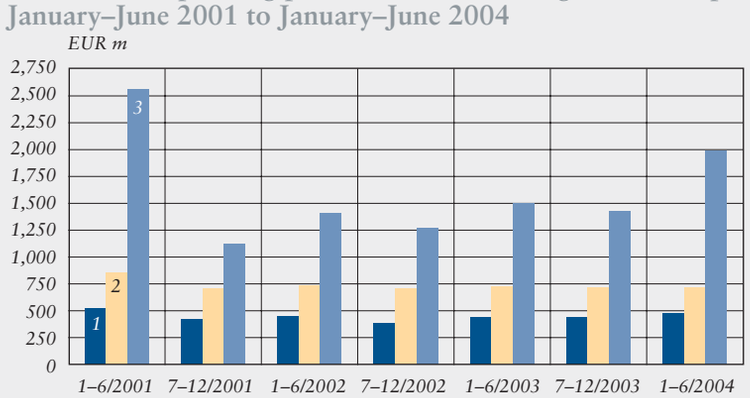
Due to internationalisation and structural arrangements, it has become increasingly difficult to define the concept 'Finnish banking sector'. Different banks and different parts of individual financial conglomerates can be included in the banking sector, according to the selection made. Different groupings in turn give a slightly differing picture of the sector's developments (Chart 30).

The combined operating profit of Finnish banking groups[1] (excl. Nordea) for the period January–June 2004 increased by about 10% compared with the corresponding period in 2003 (Table 4). As for individual banks, only local cooperative banks' total operating profit declined from January–June 2003. When the

[1] Finnish banking groups include the following: savings banks, Aktia Savings Bank plc (Group), local cooperative banks, Bank of Åland plc (Group), Evli Group, eQ Online Group, OP Bank Group and Sampo Group's banking and investment services.

Chart 30.

Semi-annual operating profits of financial conglomerates operating in Finland, January–June 2001 to January–June 2004



1. *Finnish banking groups (excl. Nordea)*
2. *Finnish banking business*
3. *Financial conglomerates operating in Finland*

Source: Banks' interim reports.

weakened earnings from Nordea's retail banking in Finland are taken into account, combined operating profit for Finnish banking business decreased by about 1%. This result highlights the importance of Nordea's retail banking in Finland for the financial performance of the whole banking sector.

Banks' net interest income has been affected more strongly by the low level of interest rates and continued narrow interest rate margins than the strong growth of lending stock. Accordingly, nearly all banks have recorded decreasing net interest income during the last 12 months.

In the period January–June 2004, Finnish banking groups' net interest income was about 60% and the aggregate net fee income about 25% of all income. Although net interest income accounts for the majority of banks' income, banks have managed to compensate for the losses in this item by increasing other income. The most important sources for fee income are lending, payment transfers, asset management and securities brokerage. Accordingly, banks' income has increased, in particular, due to the stock market recovery at the beginning of 2004, business volume growth, growth in the volume of payment transfers and the revision of the payment transfer pricing system. In addition, some banks have received one-off capital gains and dividend income which are included under other income. All in all, the total income (incl. net interest income and other income) of the Finnish banking groups (excl. Nordea) has remained almost at the same level as in January-

Table 4.

Operating profits of banks and financial conglomerates

EUR m	*1–6/2004*	*1–6/2003*	*Change, %*	*2003*	*2002*	*2001*
Nordea Group	1,100	959	14.7	1,812	1,547	1,928
**Nordea Group, banking*	1,314	907	44.9	1,587	1,721	1,968
**Nordea Group, insurance*	86	57	50.9	126	–148	–67
**Nordea Bank Finland plc (Group)*	375	914	–59.0	1,038	1,378	2,573
**Nordea, retail banking in Finland*	242	292	–17.1	575	611	612
Sampo Group	547	215	154.4	472	542	1,104
**Sampo Group, banking and investment services*	138	111	24.3	231	252	296
**Sampo Bank plc (Group)*	111	84	31.7	153	178	263
OP Bank Group	265	261	1.5	515	459	504
**OKO Bank Consolidated*	69	104	–33.7	174	96	111
Savings Banks (excl. Aktia), total	24	23	4.4	41	59	72
Aktia Savings Bank plc (Group)	18	15	15.9	30	20	32
Local cooperative banks	14	17	–15.7	30	33	36
Bank of Åland plc (Group)	9	8	14.3	15	14	17
Evli Group	8	2	288.6	8	–5	–3
eQ Online Group	2	–1	–	0	–2	–10
1. Finnish banking groups (excl. Nordea)	477	435	9.6	870	830	945
2. Finnish banking business	719	727	–1.1	1,445	1,441	1,557
3. Financial conglomerates operating in Finland	1,986	1,498	32.6	2,923	2,667	3,681

1. Includes Finnish banking groups; Sampo: banking and investment services.
2. Includes Finnish banking groups; Sampo: banking and investment services; Nordea: retail banking in Finland.
3. Includes Finnish banking groups; Sampo Group and Nordea Group.
Source: Banks' interim reports.

June 2003. However, as other income from Nordea's retail banking in Finland has decreased, the total income for the Finnish banking business decreased during the last 12 months.

Total expenses decreased in January–June 2004 as compared with the corresponding period of 2003. However, the development of expenses varied between banks. In general it can be said that cost control has concentrated either on staff expenses or other expenses, but banks have not managed to reduce both expenses simultaneously. If bank's staff expenses have declined, its other expenses have increased at the same time. Correspondingly, a rise in staff expenses indicated a fall in other expenses.

Finnish banking groups have recorded very small or non-existent loan losses in January–June 2004. In addition, in the early part of the year, some banks have recorded recoveries in respect of earlier loan losses, which has had a positive impact on banks' operating profits.

When the banking sector is assessed in terms of main financial conglomerates operating in Finland,[2] the combined operating profit increased by over 30% as compared with January–June 2003. Underlying the strong improvement in earnings were better operating profit of life and non-life insurance companies and one-off items.

[2] Financial conglomerates operating in Finland include the following: savings banks, Aktia Savings Bank plc (Group), local cooperative banks, Bank of Åland plc (Group), Evli Group, eQ Online Group, OP Bank Group, Sampo Group and Nordea Group.

Nordea Group's operating profit[3] for the early part of 2004 amounted to EUR 1,100 million, which was approximately 15% higher than in the corresponding period in 2003. The Group's improved earnings from retail banking resulted from increased operating profit from the Group's retail banking in Nordic countries other than Finland. The operating profit from life insurance business also improved as a consequence of increased sales of unit-linked insurance products and net premium income. In addition, Nordea Group has also reported smaller loan losses in January–June 2004 as compared with the corresponding period in 2003. In annual terms, Nordea's loan losses accounted for 0.05% of total loans and guarantees, which can be considered very low.

Financial conglomerates' financial results improved.

Sampo Groups's operating profit in the first part of 2004 totalled EUR 547 million. The operating profit grew, affected by one-off items and the good performance of the insurance company If. The operating profit from life insurance business improved by about 40% to EUR 127 million (EUR 92 million in January–June 2003) mainly

[3] Nordea Group's operating profit was smaller than the aggregate operating profit from the Group's banking and life-insurance business, since capital gains from real estate sales and the recorded write-downs are dealt with differently in the accounting of these two different entities. The profit and loss account of the Nordea Group is based on the Group's areas of business activity, and thus the net effect of real estate sales and write-downs (+EUR 300 million in January–June 2004) has been recorded as a separate item, after the operating profit. However, in the profit and loss account for the Nordea Group's banking and life insurance business, represented in accordance with the regulations of the Finnish Financial Supervision Authority, real estate sales and write-downs are entered in other income that is presented before operating profit.

as a result of the growth of income from investments. In May 2004 Sampo increased its holdings in If P&C Insurance Company. If is therefore consolidated as a subsidiary to Sampo Group's financial result as from the second quarter of 2004. The share of If's operating profit, entered in the financial result of Sampo Group, was EUR 212 million in January–June 2004. The growth of If's operating profit resulted from low expenditure on insurance reimbursement, increased insurance premiums and cost cutting. Sampo Group's earnings performance in January–June 2004 was also improved by capital gains received on the sales of Skandia shares (+EUR 95 million) and a transfer of imputed tax claims (+EUR 140 million).

OP Bank Group's operating profit increased by 1.5% in January-June 2004 and totalled EUR 265 million. The Group's net interest income decreased due to falling interest rates and narrowing interest rate margins on lending. By contrast, other income (incl. net fee income) increased by about 9% compared with the same period a year ago, to stand at EUR 238 million. Underlying this development was, in particular, the growth of net income from securities transactions. The growth of OP Bank Group's

Table 5.

Banks' profitability and cost efficiency

	Profitability: Return on equity (ROE), %		
	1–6/2004	*2003*	*2002*
Nordea Group	*18.0*	*12.3*	*7.5*
**Nordea Bank Finland plc (Group)*	*4.9*	*7.5*	*9.3*
**Nordea, retail banking in Finland*	*32.0*	*44.0*	*38.0*
Sampo Group	*31.3*	*14.0*	*1.4*
**Sampo Group, banking and investment services*	*19.9*	*17.8*	*19.2*
**Sampo Bank plc (Group)*	*16.7*	*11.3*	*14.3*
OP Bank Group	*12.1*	*11.5*	*11.9*
**OKO Bank Consolidated*	*15.0*	*18.5*	*10.0*
Aktia Savings Bank plc (Group)	*12.3*	*11.1*	*7.2*
Bank of Åland plc (Group)	*12.6*	*11.4*	*11.5*
Evli Group	*19.1*	*9.0*	*–6.1*
eQ Online Group	*15.0*	*0.4*	*–5.1*
	Cost efficiency: Costs, % of income		
	1–6/2004	*2003*	*2002*
**Nordea Group, banking*	*61*	*63*	*64*
**Nordea Bank Finland plc (Group)*	*52*	*69*	*72*
**Nordea, retail banking in Finland*	*56*	*51*	*48*
**Sampo Group, banking and investment services*	*61*	*65*	*64*
**Sampo Bank plc (Group)*	*67*	*73*	*71*
OP Bank Group	*62*	*62*	*61*
**OKO Bank Consolidated*	*54*	*45*	*56*
Savings Banks (excl. Aktia), total	*69*	*73*	*64*
Aktia Savings Bank plc (Group)	*70*	*73*	*81*
Local cooperative banks, total	*72*	*70*	*68*
Bank of Åland plc (Group)	*67*	*71*	*69*
Evli Group	*77*	*83*	*111*
eQ Online Group	*83*	*100*	*111*

Sources: Banks' interim reports.
(Savings banks and local cooperative banks do not publish figures for return on equity.)
ROE percentages are not fully comparable.

operating profit was also supported by the financial result of OP Life Insurance, which improved as a result of strengthened net income from investment activities. In the first half of 2004 OP Life Insurance's operating profit was EUR 33 million (EUR 19 million in January–June 2003).

Measured by the ratio of costs to income, banks' cost efficiency has improved from the end of 2003 (Table 5). However, over the past two years the costs-to-income ratios have deteriorated for some smaller banking groups.

Even so, banks' efficiency has improved, as evidenced by bank profitability, as measured by return on equity (ROE %). Banks' ROE percentages have improved in January–June 2004 as compared with the end of 2003. However, this assessment can not be extended to savings banks and local cooperative banks at group level since they do not publish figures describing the return on equity for the whole group. Cost management is vital to banks in ensuring good financial performance.

Banks' capital adequacy has still remained good, on average, although some banks' capital adequacy ratios have weakened somewhat compared with the end of 2003 (Table 6).

Table 6.

Banks' capital adequacy and buffers against losses

	Capital adequacy (Tier 1 + Tier 2), %		
	6/2004	*12/2003*	*12/2002*
Nordea Group	*9.3*	*9.3*	*9.9*
**Nordea Bank Finland plc (Group)*	*22.4*	*22.2*	*10.4*
Sampo Group	*13.9*	*12.5*	*17.3*
**Sampo Bank plc (Group)*	*10.8*	*9.8*	*11.2*
OP Bank Group	*15.3*	*15.4*	*15.2*
**OKO Bank Consolidated*	*10.9*	*11.0*	*11.1*
Savings Banks (excl. Aktia), total	*18.4*	*18.9*	*19.6*
Aktia Savings Bank plc (Group)	*14.4*	*13.9*	*13.1*
Local cooperative banks, total	*20.0*	*21.0*	*21.7*
Bank of Åland plc (Group)	*11.6*	*11.4*	*11.0*
Evli Group	*28.0*	*30.0*	*34.9*
eQ Online Group	*28.3*	*35.0*	*50.1*
	Buffer for 8% capital adequacy, EUR m		
	6/2004	*12/2003*	*12/2002*
Nordea Group	*1,848*	*1,809*	*2,564*
**Nordea Bank Finland plc (Group)*	*7,715*	*7,658*	*3,192*
Sampo Group	*838*	*621*	*1,167*
**Sampo Bank plc (Group)*	*369*	*196*	*308*
OP Bank Group	*1,778*	*1,708*	*1,533*
**OKO Bank Consolidated*	*267*	*268*	*251*
Savings Banks (excl. Aktia), total	*268*	*264*	*245*
Aktia Savings Bank plc (Group)	*127*	*110*	*95*
Local cooperative banks, total	*186*	*186*	*179*
Bank of Åland plc (Group)	*35*	*32*	*26*
Evli Group	*37*	*39*	*41*
eQ Online Group	*24*	*25*	*27*
Other than Nordea, total	*3,293*	*2,985*	*3,312*
Nordea and other, total	*5,141*	*4,794*	*5,877*

Sources: Banks' interim reports and Bank of Finland.

Capital adequacy has been supported by last years' positive financial results and the growth of additional own funds (Tier 2 capital). On the other hand, capital adequacy has weakened because the strong growth of lending stock has resulted in a faster growth of banks' risk-weighted assets than their own funds.

Credit risks are small.

When comparing the situation in June 2004 and December 2003, only Sampo Group's and Evli Group's original own funds (Tier 1 capital) have decreased. As regards Sampo Group, the fall was based on a dividend paid in spring 2004 and the acquisition of If. At the same time, the structure of solvency capital has changed as the fall of Tier 1 capital has been compensated for by increasing the relative share of Tier 2 capital.

Compared with the situation at the end of 2003, notional capital buffer funds have increased for the most Finnish banking groups.

Provided that there are no negative surprises affecting developments during the remainder of 2004, banks' total operating profits will improve somewhat in 2004 compared with the previous year.

Risk outlook

There are currently no major threats affecting the development of the Finnish banking sector, and the stability outlook is favourable. If operating profits were to weaken considerably, the functioning of the banking system would still not be threatened.

Loan losses have long been limited in Finland. Banks' ability to measure and manage credit risks is presently better than during the years preceding the banking crisis of the 1990s. Lending has been growing rapidly during the last years, and the share of household loans in lending stock has increased continuously. Viewed from a historical perspective household loans, housing loans in particular, are linked with only a small credit loss risk.[4] A marked growth of loan losses from their current level would require either a strong economic slowdown or strong interest rate increases. Neither of these appears probable in the light of Finnish and euro area economic forecasts.

One of the main reasons for small loan losses could be the fact that the demand for lending is weighted towards the household sector. Corporate loans (Chart 31) are usually connected with greater credit risks than lending to households or general government. If national investments grow as forecast and are increasingly financed via bank loans, the share of risk-prone corporate loans in banks' balance sheets will increase and, at the same time, corporates' ability to weather economic slowdowns will gradually become weaker. This can increase banks' loan losses in the long term, but in the short term the effects are moderate.

[4] For further details, see eg FSA Newsline 5/2004, 28 September 2004, on the effects of interbank competition on housing loans.

Another important risk type is the market risk arising from changes in share prices, exchange rates and interest rates. Their developments have been controlled. In recent years there have been no exceptionally strong increases or decreases in market risks that are taken into consideration in banks' capital adequacy requirements. Nor have the investments in shares and bonds entered in banks' balance sheets grown in an exceptional way. The use of derivative instruments has increased.

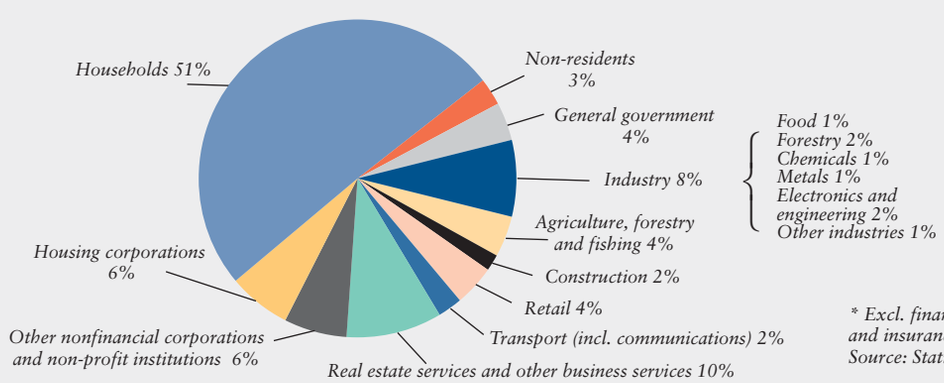
Bank lending has grown substantially faster than deposits in recent years, which has affected banks' balance sheet structure and increased liquidity risk[5] (Chart 32).

Although the majority of deposits are in principle withdrawable on

[5] See Box 4.

Chart 31.

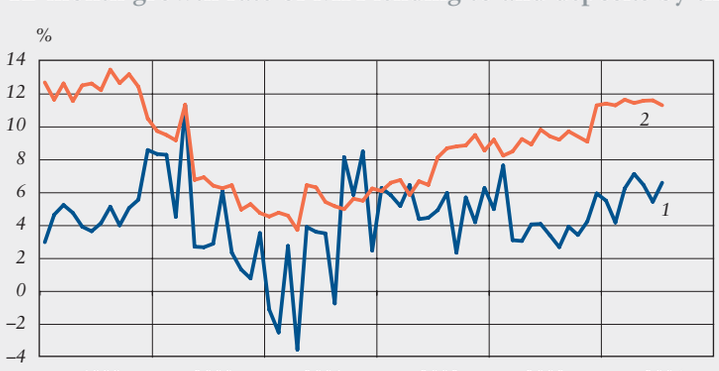
MFI lending stock by sector and economic activity*, 31 December 2003: EUR 92.3 bn



* Excl. financial institutions and insurance companies.
Source: Statistics Finland.

Chart 32.

12-month growth rate of MFI lending to and deposits by the public



1. Deposits
2. Loans
Source: Bank of Finland.

Chart 33.

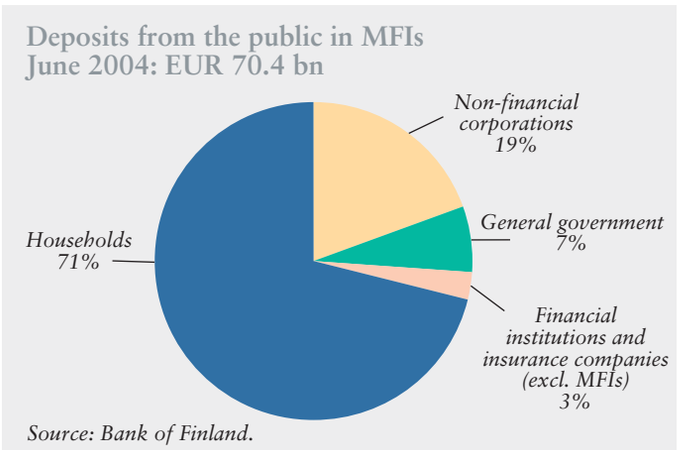
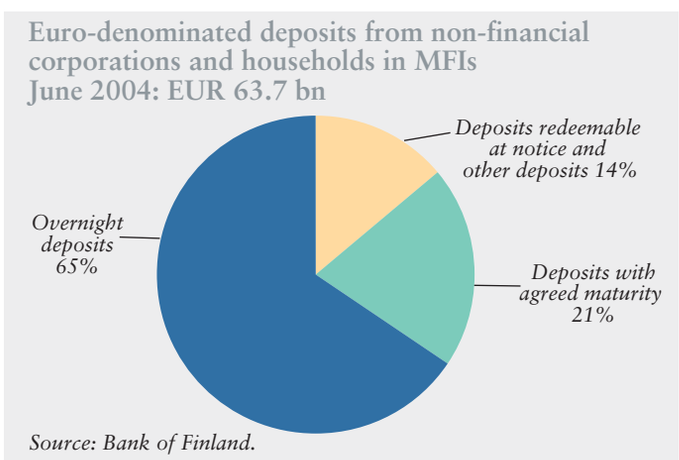


Chart 34.



demand, deposits have still proved to be one of the most stable sources of financing. Deposits have grown only slightly in recent years in relation to the growth of lending stock. In the mid-1990s, deposits held with banks were still greater than loans granted by banks, but the situation has changed fundamentally in recent years. Because banks have not been able to finance the growth of lending solely via deposits, they have had to obtain funding in other ways, eg by increasing the outstanding amount of debt securities issued. The growth of own funds has also helped to finance bank lending.

According to the Bank of Finland's statistical review 'Financial markets', deposits from the public in Finnish MFIs increased by EUR 4.7 billion and loans to the public by EUR 13.1 billion between January 2003 and July 2004. Hence the growth of lending stock exceeded the growth of deposit stock by about EUR 8.4 billion.

These developments have had an impact on banking groups' and

Table 7.

Key indicators on blance sheet structures for different financial groups

	Loans in relation to deposits	*Loans in relation to deposits*	*Debt securities issued to the public, % of balance sheet*	*Debt securities issued to the public, % of balance sheet*	*Liquid claims, % of balance sheet*	*Liquid claims, % of balance sheet*
	6/2004	*12/2001*	*6/2004*	*12/2001*	*6/2004*	*12/2001*
Nordea Bank Finland plc (Group)	*126*	*160*	*21*	*28*	*41*	*21*
OP Bank Group	*124*	*109*	*17*	*12*	*12*	*19*
Sampo Group, banking and investment services	*145*	*130*	*30*	*26*	*17*	*22*
Aktia Savings Bank plc (Group)	*129*	*108*	*14*	*4*	*15*	*21*
Bank of Åland plc (Group)	*134*	*101*	*22*	*19*	*14*	*27*

Sources: Financial statements and interim reports.
Regarding Sampo, the data is based on Sampo Bank's balance sheet information on bonds issued to the public and liquid claims. Liquid claims have here been defined as balance sheet claims from credit institutions, all interest-bearing securities and shares and participations. The change in the balance sheet structure of Nordea Bank Finland has been significantly affected by the changes in the Nordea Group's structure.

financial conglomerates' balance sheet structure (Table 7). The dominance of loans in relation to deposits has strengthened. The importance of debt securities issued to the public has increased and that of liquid claims has decreased. Households' sight deposits account for the majority of all deposits held with MFIs (Charts 33 and 34). According to banks' financial statements, the maturity structure of balance sheet assets and liabilities has remained unchanged (Chart 35).

Debt securities issued by Finnish MFIs with a maturity of less than 1 year increased between January 2003 and June 2004 by about FIM 7.7 billion, ie almost as much as the deposit deficit grew. Short-term debt financing can be volatile and its price reacts quickly if there are any changes in the creditworthiness of the Finnish banking sector.

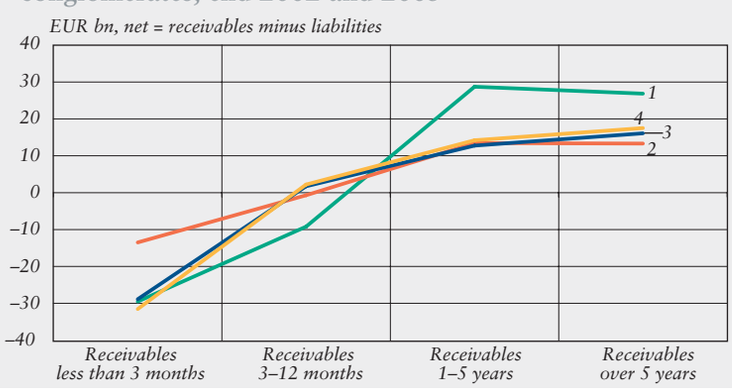
Price competition has increased in the market for housing loans in particular, as different banking groups have sought to expand their market share. Along with interest rate developments, price competition has also narrowed interest rate margins (Charts 36 and 37). This poses no threat to general stability, provided that banks' risk premiums are adequate and they meet the costs related to lending. The value of collateral for housing loans will probably remain good and the collateral values are not subject to major threats, provided that there are no major surprises affecting economic developments.

Operational risks are normally defined as risks caused by direct or indirect loss as a result of deficiencies or weaknesses related to internal processes, staff, systems or external factors. Operational risks include legal risks but exclude strategic and reputation risks. The amount of operational risks have probably remained unchanged in Finnish banks in recent years. The realisation of operational risks is most probable in situations in which operational practices are changed.

Outsourcing and structural changes emphasise the management of operational risks.

Chart 35.

Maturity breakdown of receivables and liabilities of major Finnish financial conglomerates, end 2002 and 2003



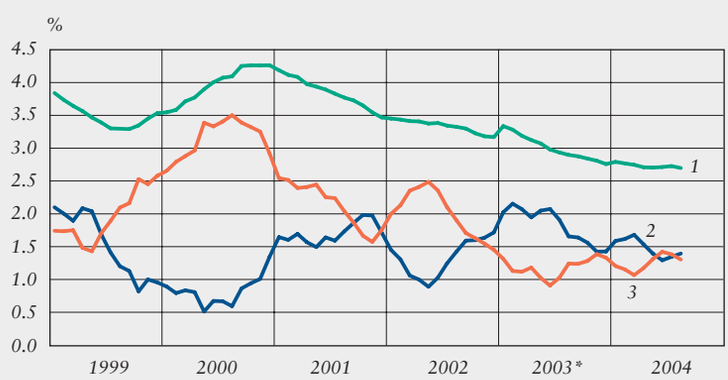
1. *Nordea Bank Finland plc (Group), 31 Dec 2002*
2. *Nordea Bank Finland plc (Group), 31 Dec 2003**
3. *OP Bank Group + Sampo + Aktia Savings Bank + Bank of Åland plc (Group), 31 Dec 2002*
4. *OP Bank Group + Sampo + Aktia Savings Bank + Bank of Åland plc (Group), 31 Dec 2003*

**Note. Change in the maturity breakdown of Nordea Bank Finland (Group) in 2003 was affected significantly by changes in the structure of Nordea Group.*
Source: Financial statements.

The most important current undertakings related to international regulation and supervision are the large-scale changeover to International Financial Reporting Standards (IFRS reform), which also apply to banks' financial reporting, and the Basel II capital adequacy reform. There have been fears that both of these reforms strengthen the procyclical nature of bank lending, ie the tendency that lending increases during economic upturns and decreases during economic downturns. Since risks increase in downturns, the Basel II system, pursuing stricter measurement of risks, requires that banks' own funds must grow in relation to lending. This can force banks to reduce their risks eg by cutting off lending. A fall in lending could in turn have an impact on economy and deepen the economic downturn. The reporting of balance sheet items at market value and the consideration of valuation changes in

Chart 36.

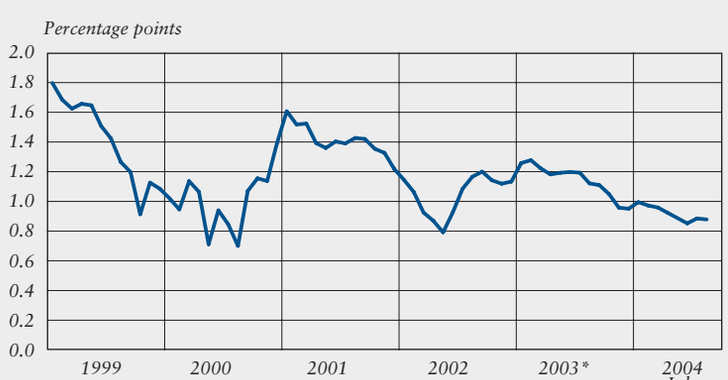
Deposit banks' interest rate margins



1. Overall margin (average lending rate – average deposit rate)
2. Average lending rate – 12-month Euribor
3. 12-month Euribor – average deposit rate
** Data collection changed 1 Jan 2003.*
Source: Bank of Finland.

Chart 37.

Average rate of new MFI housing loans minus 12-month Euribor



** Data collection changed 1 Jan 2003.*
Source: Bank of Finland.

the profit and loss account, as required by the IFRS standards, is likely to increase the cyclicality of credit institutions' profitability and could have similar implications.

Both of these reforms are being implemented approximately at the same time. As regards stability, the application of these systems (in Finland and in other countries) can at the beginning be connected with a transitional phase when changes are not entirely predictable. This emphasises, for instance, the importance of micro and macro level surveillance by the respective authorities.

There is a strong Nordic dimension to the Finnish financial system. International conglomerates and groups can in future operate either as a single company in many countries (European company) or more traditionally as an entity formed of many legal units. The units can be located in different countries and also pursue different activities. This will bring about several challenges for example to supervision.

As businesses in other economic sectors, banks have recently also started to outsource their activities, ie delegated activities they used to perform themselves to external service providers. A new phenomenon is to outsource activities to other countries. In most cases the outsourced activities are not included in banks' core business operations. However, banks can also outsource fairly central activities. There are also risks pertaining to outsourcing, as the buyer of the service becomes dependent on another company. For instance, one of the major American banks, JPMorgan Chase, announced in September 2004 that it intended to cancel its IT outsourcing contract with IBM, because it was easier for the bank to manage its technology infrastructure itself.

The goals of bank groups operating in Finland differ from each other. Many banks aim at operating with the smallest possible amount of capital in order to achieve high return on equity. This principle does not improve the stability of the banking sector, as credit institutions with far too low capital amounts suffer from a weaker ability to bear loss. Banks with a corporate structure based on a cooperative format or that of a trust do not emphasise the efficient use of capital to the same extent as commercial banks. This difference in the use and meaning of capital between legally different corporate structures can create phenomena in interbank competition which are undesirable from the viewpoint of stability.

Although there are many potential risks, the stability of the Finnish banking sector can be expected to remain good in the near future.

Box 3.

Stress testing of the banking sector

Over recent years, financial institutions have made an effort to develop risk management and proactive crisis identification methods. Several banks regularly monitor risks to their trading portfolios of financial instruments by calculating probability distributions of losses over certain time periods. In addition to this, stress tests can also be undertaken, assessing, for example, the effects of major changes in interest rates or stock prices on banks' financial results and capital adequacy.

Central banks have started to develop tests which evaluate the whole banking sector's resilience to crises. Other objects of study are interbank dependencies and the contagion of one institution's problems spreading to other institutions. Supervision authorities may perform tests on individual institutions.

The stress testing method developed by the Bank of Finland is two-phased. First, the Bank of Finland's macroeconomic models are used to produce an alternative scenario of economic developments that is worse than forecasted. The scenario can include, for example, diminishing export growth, a rise in the level of costs, interest rate changes, a slowdown of activity in the housing market and sluggish economic growth. The second step is to study the impact of the alternative economic scenario on the banking sector's financial result and balance sheet.

In 2004, calculations were performed at the Bank of Finland by using two alternative economic scenarios. These scenarios were constructed in the Bank of Finland Economics Department. Their impact on the domestic banking sector were analysed in the Financial Markets Department. The time period of the analysis was two to three years.

Economic growth slows down in both scenarios, but for different reasons. In the first scenario weak economic development is based on the appreciation of the euro and the following contraction of export growth and the weakened domestic demand which is reflected in housing market in particular. These developments are connected with a fall in interest rates. In the second scenario an oil supply shock causes a strong temporary increase in oil prices, the inflationary effects of which result in a provisional rise in euro area interest rates. At the same time, economic growth slows down.

The financial result of the banking sector weakens in both scenarios primarily due to a slowdown in economic growth leading to increased loan losses. The timing of the effects is, however, different. In the scenario based on oil supply shock, economic growth slows down and interest rates rise temporarily, right at the beginning of the reference period. Despite interest rate reactions, which are in part different, banks' net interest income declines cumulatively in both scenarios over the three-year reference period. Due to the increase in loan losses and deterioration in net interest income, the development of the banks' operating profit is clearly weaker than in the baseline forecast. The cumulative operating profit of the banking sector is, however, positive in both stress scenarios. The calculations support the view that the banking sector's capital adequacy would be adequate to withstand economic developments that are clearly weaker than forecasted. On the other hand, the calculations do not take into account indirect effects that the banks' weaker financial result and capital adequacy can cause through market reactions.

Stress tests can also be conducted individually on key financial sector variables, such as loan losses. Experience has shown that loan losses from the corporate sector in particular

form the most important individual factor in most banking crises. The sensitivity of the Finnish corporate sector defaults to macroeconomic factors has been tested in the Bank of Finland Discussion Paper published recently (Discussion Paper No. 18/2004, see also Discussion Paper No. 6/2001). The method is based on the modelling of industry-specific default rates with the help of macroeconomic variables and the stochastic simulation of the model.

Economic models are central tools which help to better understand and predict risks related to alternative scenarios and their respective dynamics. However, the results given by the models should not be trusted blindly. Stress testing carried out the manner described above requires assumptions of permanent dependencies between economic variables. The regularities which are normally valid can however become invalid in a financial markets crisis. As models always contain uncertainty, stability assessments should always be complemented with additional analyses.

Box 4.

Banks' liquidity risks

A bank's liquidity risk generally refers to the risk of a bank being unable to fulfil its payment obligation in a timely manner or without causing huge extra costs. Liquidity risk is an inseparable part of traditional banking, in which lending is typically long-term and borrowing consists of short-term liabilities and demand deposits. In a normal situation, a bank's liquidity risk is small because it is able to renew its funding, and increase its short-term funding, if necessary, and because the development of demand deposits is fairly stable. A liquidity problem may, however, rise for example due to faltering confidence in the bank or disturbances in the operation of financial markets.

Liquidity risks are closely connected to banks' other risks, capital adequacy and profitability. The realisation of credit or market risks or a threat to capital adequacy increases a bank's liquidity risks. On the other hand, the realisation of a liquidity risk quickly increases the probability of other risks being realised and weakens a bank's capital adequacy. Meanwhile, if a bank prepares for liquidity risks by, for example, improving the liquidity of its assets, its profitability will probably weaken.

A bank's liquidity risk also reflects the development of its assets and liabilities. On the one hand, the risk depends on the bank's ability to improve its liquidity by acquiring more short-term funding. The development of interbank markets has improved banks' possibilities of obtaining funding. On the other hand, liquidity risk also reflects the bank's ability to sell or otherwise liquidate its assets. A bank may encounter liquidity problems if, for example, securities markets are not liquid and securities prices fall considerably as a consequence of the bank selling a large batch of securities. In addition to the assets and liabilities entered in the balance sheet, other off-balance sheet items, such as certain credit commitments and derivative contracts, should be taken into account in assessing liquidity risk.

The size of a bank's liquidity risk can be examined from several different perspec-

tives. Firstly, the extent of sudden liquidity needs caused by the bank's operation and commitments can be assessed. Secondly, the sensitivity of various balance sheet and off-balance sheet items to changes in confidence in the bank and in the bank's condition can be assessed. The assets which the bank can use as liquidity buffers in special situations can also be assessed. The size of liquidity risk also reflects the bank's ability to otherwise improve its liquidity – for example by restricting its normal lending.

The regulation and supervision of banks' liquidity risks has not yet been the subject of international harmonisation. For example the capital adequacy reform (Basel II) does not include requirements on banks' liquidity. Banking supervisors' approach to the supervision of liquidity risks and liquidity risk management vary considerably: some set quantitative requirements on banks or require the reporting of certain quantitative indicators of liquidity, whereas some emphasise the qualitative requirements of liquidity risk management. In recent years, the focus of liquidity risk regulation and supervision has moved towards qualitative requirements of risk management systems. The latest example of this development was seen in Finland at the end of July 2004 when the requirement on the so-called cash reserve ratio was abolished from the Credit Institutions Act. The purpose of the requirement was to regulate the ratio of banks' certain liquid assets and liabilities.

The internationalisation of banking and changes in the banking structure within the EU create new challenges to liquidity risk management in a situation in which risks have to be managed within an entire banking group. Therefore liquidity and liquidity risk management is more and more often centralised in internationally operating banks. Changes in banks' liquidity risk management, in turn, pose a challenge to banking supervision. Monitoring liquidity risks of internationally operating banks calls for close cooperation between national authorities. The need for cooperation applies particularly to the supervision of banks operating through an international branch network. The liquidity supervision of the branches of these banks is, within the EU, the responsibility of the supervisory authority of the host country in cooperation with the home country supervisor.

From the viewpoint of a central bank it is essential that banks manage their liquidity risks efficiently. Liquidity risks call for close attention as liquidity problems can spread through markets and payment systems to the entire financial system. Central banks have thus prepared themselves for satisfying banks' temporary liquidity needs with the help of monetary policy instruments, and in exceptional circumstances through mechanisms of discretionary emergency liquidity assistance. Increased attention has been paid to banks' intraday liquidity risks, which have a direct linkage to the operation of payment and clearing and settlement systems.[1]

[1] *See Box 9.*

Financial performance and solvency in the insurance sector

The operating environment of insurance companies improved in 2003 from the year before. Rising share prices in particular contributed to the financial performance and solvency of the insurance sector in 2003.[6] The improvement in investment income was primarily reflected in the financial results of life and pension insurers. Operating profits for non-life insurers declined in 2003 from the year before in response to a fall in both earnings on technical account and the loss ratio. The deterioration in the loss ratio was attributable to a one-off consolidation of the claims provision in respect of statutory lines of insurance. The technical rate of interest employed in the calculation of pension expenditure was lowered and changes were made to mortality assumptions, which also called for the consolidation of the claims provision. The financial performance and solvency of the insurance sector remained good in the first half-year of 2004, although the fall in share prices in the spring was reflected in investment income.

Close convergence of the portfolio structures of Finnish insurance groups has taken place over the past few years (Box 5). Investment policies, nevertheless, differ across individual companies, as demonstrated by the financial results and solvency of last year. The higher share of equity holdings in asset portfolios generates stronger solvency volatility, and it is therefore important that insurance companies have capital

[6] Finnish Insurance Economy. Financial year 2003. The Federation of Finnish Insurance Companies.

Table 8.

Solvency of the insurance sector

	6/2004	*6/2003*	*Change, %*	*12/2003*	*12/2002*
Life insurance companies					
Capital and reserves, EUR m	*2,257*	*2,054*	*9.9*	*2,022*	*1,786*
Solvency margin, EUR m	*3,061*	*2,912*	*5.1*	*2,948*	*2,733*
Solvenvy capital, EUR m	*3,219*	*3,058*	*5.3*	*3,103*	*2,886*
Solvency margin of minimum amount, %	*321.4*	*316.1*		*308.4*	*309.1*
Solvency capital of technical provisions, %	*14.6*	*14.6*		*14.3*	*14.4*
Employee pension insurance companies					
Capital and reserves, EUR m	*213*	*189*	*12.7*	*205*	*181*
Solvency margin, EUR m	*8,210*	*6,752*	*21.6*	*7,787*	*5,940*
Solvency margin of minimum amount, %	*300.9*	*309.2*		*323.6*	*306.4*
Solvency margin of technical provisions, %	*20.3*	*16.8*		*19.9*	*16.1*
Non-life insurance companies					
Capital and reserves, EUR m	*1,266*	*1,151*	*10.0*	*1,189*	*1,235*
Solvency margin, EUR m	*1,788*	*1,816*	*–1.5*	*1,889*	*1,754*
Solvency capital, EUR m	*3,149*	*3,209*	*–1.9*	*3,179*	*3,138*
Solvency margin of minimum amount, %	*383.5*	*434.7*		*406.4*	*420.7*
Solvency capital of premiums earned over 12-months, %	*127.5*	*134.6*		*131.2*	*134.0*

Reported figures for capital and reserves also include subordinated loans, if any.
Sources: Insurance Supervisory Authority.

buffers in place to ensure an adequate level of solvency (Table 8). According to the survey of the solvency of insurance companies published by the Insurance Supervisory Authority, the changes in the level of interest rates witnessed in 2003 did not have any significant consequences for the solvency of the insurance sector. The investment policy pursued by Finnish life and pension insurers in recent years has differed from the global approach, in that the Finnish companies did not start to dispose of their shares during the protracted fall in share prices. Consequently, the Finnish life and pension insurers have benefited more from the recovery of stock markets than their counterparts in several other countries.

In 2003, total premiums written by domestic insurance companies remained in line with the year before, standing at around EUR 13 billion (Table 9). Premiums written by non-life and pension insurers increased by a good 3% last year, while premiums written by life insurers declined by a good 10% from the year before. Premiums written on endowment insurance declined, whereas premiums written on personal pension plans increased by nearly 10%. The trend in premiums written by life insurers was largely similar over the period January–September this year. Premiums written on endowment policies continued their downward trend, whereas premiums written on personal pension policies increased further at an annual rate of approximately 10%. In response to the changes in the tax treatment of personal pension plans and the introduction of a higher eligibility age for personal pensions, sales of new policies have collapsed from the year before.

Developments in Finnish insurance markets are in line with the

Table 9.

Operating profits and premiums written in the insurance sector

Operaring profits in the insurance sector (EUR m)

	2003	*2002*	*2001*
Life insurance companies, total	*997*	*284*	*532*
Non-life insurance companies, total	*200*	*236*	*1,672*
Employee pension insurance companies	*2,141**	*–1,026**	*–1,279**

Premiums written in the insurance sector (EUR m)

	2003	*2002*	*2001*
Life insurance companies, total	*2,911*	*3,263*	*3,201*
Non-life insurance companies, total	*2,850*	*2,756*	*2,618*
Employee pension insurance companies, total	*6,636**	*6,431**	*6,180**

** Excl. Etera.*
Sources: Federation of Finnish Insurance Companies and employee pension insurance companies' press releases concerning financial statements.

international trend in that the focus of premiums written on endowment and personal pension insurance is shifting from guaranteed-return to unit-linked policies. This will make the life insurance sector better equipped to withstand declines in asset prices.

The Finnish insurance market is characterised by a high proportion of premiums written accounted for by workers' compensation insurance, third party motor insurance and statutory employee pension insurance, which make up more than 60% of premiums written within the entire insurance sector. This serves to build continuity in the sector and mitigate the adverse consequences of strongly fluctuating premiums written on voluntary insurance for the financial stability of insurance markets.

Another typical feature of the Finnish insurance market, common to most small countries, is the concentration of the market and the fact that competition from foreign insurance undertakings is only in the early stages. New participants entered the life insurance market back in the 1990s already when the largest banks set up their own life insurance companies. The important role played by the banks' retail network can be understood against the background of life companies operating in connection with banks having raised their market shares considerably within only a few years.

Box 5.

Portfolio restructuring in the insurance sector

During the past twenty years, the investment business conducted by Finnish insurance companies has been undergoing major restructuring,[1] characterised by two main trends. First, the focus of investments has shifted from traditional lending and real estate towards the securities markets. Second, the process of internationalisation of investments has stepped up since 1999. Currently, portfolios are diversified across the euro area and, to some extent, across the OECD countries outside of the euro area.

Life insurers

Up until the mid-1980s, investments by life insurers focused on lending and real estate.

In the 1990s, there was a shift in emphasis from loans to bonds, which have been the major investment vehicle of life insurers over the past fifteen years, accounting for more than 60% of the portfolio at the end of 2003. The volume of lending has declined to around EUR 100 million in an investment portfolio of EUR 24 billion in 2003.

Alongside bonds, equities were another major investment vehicle in the 1990s. Their proportion has grown from less than one fifth in 1990 to nearly 30% at present.

Investments by life insurers are conditioned for example by the breakdown of premiums written. Premiums written have traditionally been dominated by guaranteed-return policies and, hence, the focus of investments has been on fixed income instruments. However, the proportion accounted for by unit-linked endowment and pension insurance in premiums written by life insurers has grown in recent years, with roughly half of premiums written on personal pensions based on unit-linked policies. The share of equities in life insurers' portfolios has grown in response, and this trend is expected to continue.

Like other insurance companies, life insurers have also been diversifying their previous domestically focused portfolios across international markets since 1999. Life insurers started to invest in international interest rate and stock markets in the mid-1990s already, but large-scale investment outside Finland and especially to elsewhere within the euro area did not commence until 1999. Currently, clearly over half of life insurers' assets are invested in foreign instruments.

Non-life insurers

Investments by non-life insurers were also primarily directed towards lending and real estate in the early 1980s, but the increase in lending came to a halt in the mid-1980s already, with new investment being increasingly diverted into the securities markets.

Non-life companies started to invest in securities earlier than other insurance companies. During the past ten years, the portfolio structure of non-life insurers has changed in that lending has stopped almost entirely and bonds have come to dominate holdings in fixed income instruments. The share of equities has stabilised at around one quarter of the entire portfolio, while the proportion of real estate holdings has been shrinking for a long time already and currently makes up a good 10% of the portfolio.

Finnish non-life insurers had foreign operations in the 1980s, which was also reflected in their investment business. Investment abroad was commenced already in the 1980s but was still of only minor importance at the time. In the following decade, non-life insurers increased their foreign

[1] *Sources: The Finnish Pension Alliance TELA and the Federation of Finnish Insurance Companies.*

holdings but their international investment business did not start on a larger scale until the introduction of the euro. In June 2004, more than half of investments by non-life insurers were outside Finland.

Employee pension insurers

Until the early 1990s, investments by employee pension insurers focused on premium lending and other lending. Prior to the deep economic recession witnessed in the early 1990s, premium loans accounted for a stable proportion of approximately 55% of the entire investment portfolio of employee pension insurers, with other loans making up around one fourth of the portfolio.

During the 1990s, the investment business of employee pension insurers underwent two profound structural changes. With the demand for premium loans and other loans dwindling in the wake of the recession, the importance of lending for the investment business of employee pension insurers declined substantially. At the end of 2003, the proportion of premium loans had dropped to a good 4% and that of other loans to a good 2% of the entire portfolio. This prompted employee pension insurers to redirect their investments from loans into bonds in the 1990s. Employee pension insurers had played a key role as a domestic source of government financing in the 1990s. In response to the changes in the investment regulations governing employee pension insurers introduced after the mid-1990s, the share of equity holdings started to increase.

Since 1999, employee pension insurers have also been diversifying holdings abroad. At the end of 2003, 55% of investments by employee pension insurers were in international markets, primarily in the euro area.

Table.

Insurance companies' portfolio structure, %

	Life insurance companies			*Non-life insurance companies*			*Employee pension insurance companies*		
	1980	*1990*	*2003*	*1980*	*1990*	*2003*	*1980*	*1990*	*2003*
Money market instruments and bonds	*11*	*18*	*62*	*5*	*12*	*57*	*4*	*5*	*55*
Equity holdings	*5*	*19*	*27*	*10*	*28*	*25*	*1*	*5*	*24*
Real estate holdings	*31*	*21*	*1*	*27*	*30*	*12*	*7*	*7*	*13*
Loans	*52*	*37*	*9*	*59*	*29*	*2*	*33*	*25*	*2*
Premium loans	*–*	*–*	*–*	*–*	*–*	*–*	*55*	*56*	*5*
Other investments	*2*	*5*	*1*	*0*	*2*	*2*	*0*	*2*	*1*

Source: Federation of Finnish Insurance Companies.

Infrastructure

Within the past year, European integration has progressed and the European Commission's Financial Services Action Plan is in its final phase. The integration process is, however, not completed, and there is a need to extend the Action Plan in order to achieve the goal of the Lisbon strategy, which has the objective of making the EU the most competitive economy in the world by 2010.

Initiatives on the regulation of payment systems and securities clearing and settlement systems were not included in the original Financial Services Action Plan. They have been given a prominent role in the post-FSAP process. The systems have operated reliably, but the objective is to improve the efficiency of various market segments. This calls for cooperation between authorities and the private sector (market participants, including issuers). Due to recent structural changes, a new perspective has to be taken on the national and EU level in solving several knotty questions.

Payment systems

In general, payment systems have performed reliably and thereby promoted the stability of the financial system. The TARGET[1] system has operated reliably, and the disruptions experienced have not had an effect on stability. However, it does not cover its costs, and will not reach cost recovery during its life span. One of the objectives of the next generation of the TARGET system, TARGET2, is cost effectiveness. The stability of the new and old system is crucial to the entire financial system because other payment systems and securities clearing and settlement systems operating within the EU are dependent on its operation.

TARGET and EURO1[2] are still the most crucial payment systems within the EU in terms of the number and value of payments handled. The transfer of large-value payments has been concentrated on these systems. However, growth in the value and volume of payments seems to have levelled, based on developments in 2003 and early 2004 even though some growth can still be observed (Charts 38 and 39).

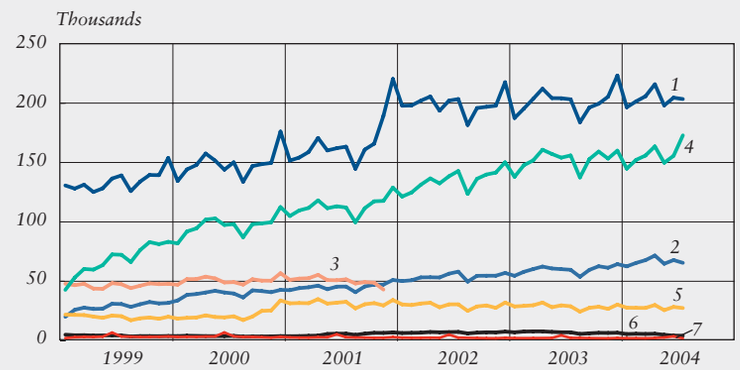
In early 2004, for the first time, the number of TARGET customer payments exceeded that of interbank payments, indicating that TARGET is used widely also for customer payments (Chart 40). Although the number of customer payments is increasing, there has only been a slight change in their value, which – in turn – is an indication that smaller and

[1] TARGET, abbreviated from 'Trans-European Automated Real-time Gross Settlement Express Transfer System', is an EU-wide payment system, owned by the central banks, that processes euro-denominated payments. TARGET consists of the fifteen national Real-Time Gross Settlement systems (RTGS) and the ECB payment mechanism (EPM).

[2] EURO1, which is operated by the Euro Banking Association (EBA), is an EU-wide netting system for large and medium-value euro-denominated payments.

Chart 38.

Volume of transactions in EU area payment systems, daily average



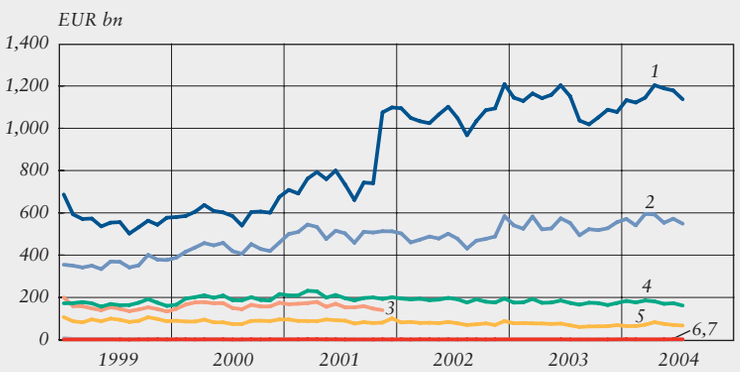
1. *National TARGET transactions*
2. *Cross-border, EU-wide TARGET transactions*
3. *EAF* (Euro Access Frankfurt)*
4. *EBA EURO1 (Euro Banking Association)*
5. *PNS (Paris Net Settlement)*
6. *SPI (Servicio de Pagos Interbancarios)*
7. *POPS (Finnish interbank express transfer and cheque system)*

* *EAF ceased operations 5 Nov 2001.*

Sources: European Central Bank and EU area banks.

Chart 39.

Value of transactions in EU area payment systems, daily average



1. *National TARGET transactions*
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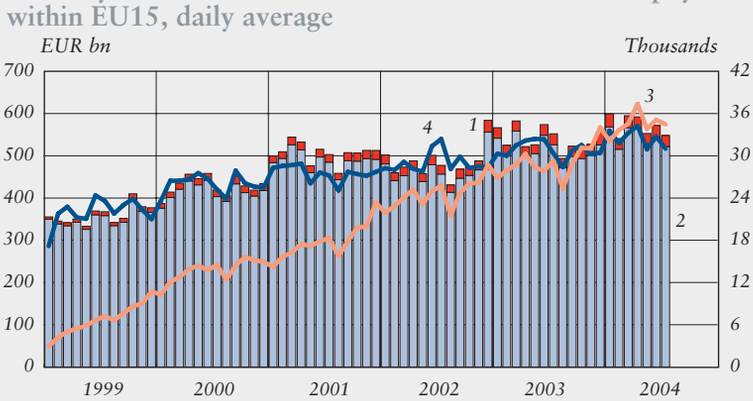
3. *EAF* (Euro Access Frankfurt)*
4. *EBA EURO1 (Euro Banking Association)*
5. *PNS (Paris Net Settlement)*
6. *SPI (Servicio de Pagos Interbancarios)*
7. *POPS (Finnish interbank express transfer and cheque system)*

* *EAF ceased operations 5 Nov 2001.*

Sources: European Central Bank and EU area banks.

Chart 40.

Monthly value and volume of cross-border TARGET payments within EU15, daily average



1. *Customer payments value (LHS)*
2. *Interbank payments value (LHS)*
3. *Customer payments volume (RHS)*
4. *Interbank payments volume (RHS)*

Source: European Central Bank.

smaller customer payments are transferred through TARGET.

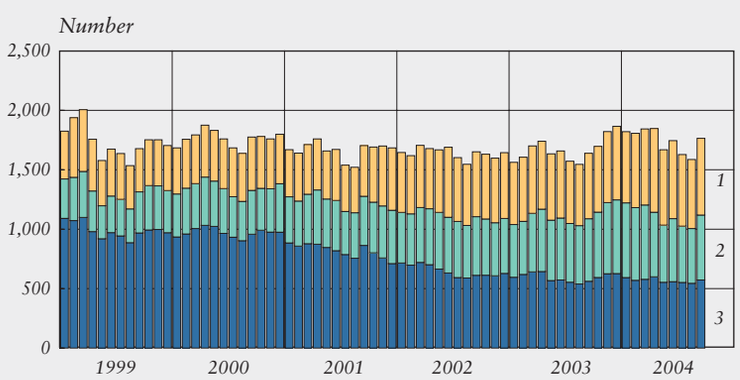
The number of Finnish domestic TARGET payments has decreased by almost 50% since the early days of TARGET operations in 1999, whereas the value of payments has remained unchanged. This is mainly due to structural changes in the maintenance of currency supply. Banks no longer handle their maintenance of currency supply payments directly with the Bank of Finland. Instead, they have centralised their maintenance of currency supply with one operator, who handles all necessary cash-related money transfers with the Bank of Finland (Charts 41 and 42).

Operational reliability of the payment systems

In 2003, TARGET experienced a fairly high number of operative disruptions (148 occurrences). The

Chart 41.

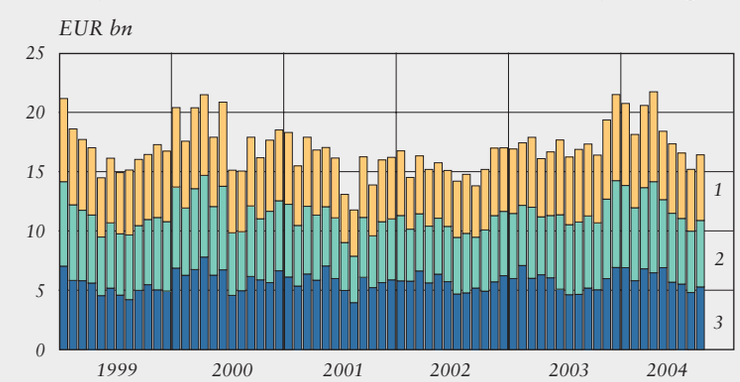
Monthly volume of transactions in BoF-RTGS, daily average



1. Payments received from abroad
2. Payments abroad
3. Domestic payments
Source: Bank of Finland.

Chart 42.

Monthly value of transactions in BoF-RTGS, daily average



1. Payments received from abroad
2. Payments abroad
3. Domestic payments
Source: Bank of Finland.

reporting of disruptions was improved in 2003, as a result of which the number of reported disruptions rose by 40 from 2002. The disruptions did not, however, have a serious effect on stability. TARGET's availability rate has improved slightly since 2002; it was 99.79% in 2003. In terms of the availability rate, 0.1% means that the system has been out of operation for approximately 14 minutes per month.

The Bank of Finland's Real-Time Gross Settlement system (BoF-RTGS[3]), the Finnish TARGET component, was the third best TARGET component in terms of availability (99.92%) in 2003, despite a slight drop from 2002 (Chart 43). In addition, by the end of September 2004, the Finnish component has experienced three disruptions that have stopped cross-border payments. The reason for these disruptions has been isolated and amendments to the system will be made by the end of November 2004.

During disruptions in the BoF-RTGS system, the most important payments have been processed with the help of contingency procedures. Thus disruptions have not had a serious effect on the system. Moreover, TARGET as a whole and BoF-RTGS in particular have operated smoothly and disruptions have not affected banks' confidence in the systems.

TARGET – and its component the BoF-RTGS – have operated reliably despite disruptions.

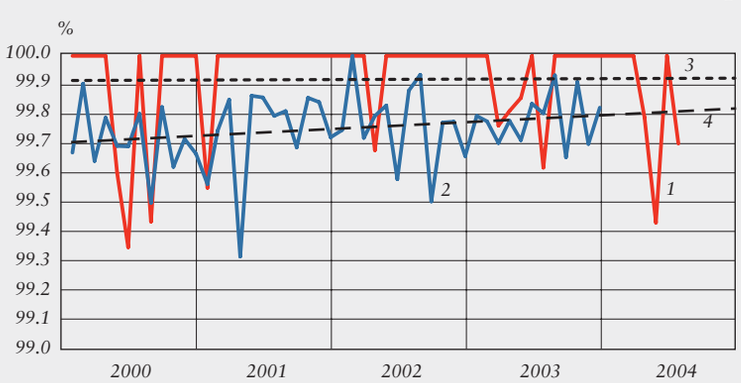
TARGET's operational reliability will be improved by an extensive risk analysis performed recently. The biggest problems that have come out in the assessment will be fixed even though the existing system will be replaced by TARGET2 within a few years.

If the market participants are unable to send their payment messages electronically to the Bank of Finland due to a disruption, the central bank can send the messages manually on the behalf of the banks.

[3] The BoF-RTGS, as expressed in its name, is a real-time gross settlement system under which each payment is handled individually.

Chart 43.

Availability rate of the entire TARGET and its Finnish component (BoF-RTGS)



1. BoF-RTGS
2. TARGET
3. Trend (BoF-RTGS)
4. Trend (TARGET)
Source: European Central Bank.

The STEP2 system is not competitive with domestic systems.

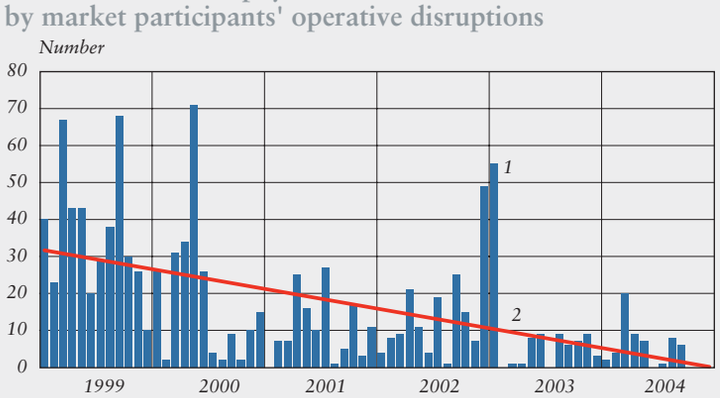
The number of manual payment orders caused by disruptions not stemming from the Bank of Finland's systems has dropped significantly since TARGET became operational and is currently quite small. Based on this indicator, the systems of market participants have thus operated satisfactorily (Chart 44).

The other key system for transferring large-value payments across borders is EURO1. This system was established by the Euro Banking Association (EBA), whose members are banks operating within the EU.

The Euro Banking Association offers banks also a separate system (STEP2) for sending small-value cross-border payments in euro to any bank within the EU. Through the latter system, a participant can send bulk payments to any bank operating within the EU. STEP2 will transmit the payments to the recipient country and is important for cross-border payments between small EU countries as it is the first system that can offer this kind of service. EU-area banks have publicly and jointly committed themselves to offering this kind of uniform service. The number of payments transmitted through the system is not yet that high. The number and daily value of payments would, however, increase considerably if domestic payments were also transmitted through it. The STEP2 system is not yet fully competitive with all existing domestic systems due to the slowness of crediting the recipient's account and the costs being higher than in existing domestic systems. Only credit transfers can be processed through STEP2, but the objective is to increase the number of payment methods available. The operational reliability of STEP2 is dependent on the EURO1 system because the settlement is handled through EURO1. No significant disruptions have been observed in the STEP2 and EURO1 systems.

Chart 44.

Number of manual payment orders in the BoF-RTGS caused by market participants' operative disruptions



1. Number of payment orders
2. Trend
Source: Bank of Finland.

The Continuous Linked Settlement (CLS[4]) system, which is a foreign currency settlement system aimed at reducing banks' risks in settlement of foreign exchange trades, has been operating for a couple of years. The number of eligible currencies in the system has increased and the number of settled transactions has risen significantly. Despite some disruptions, the system has operated quite satisfactorily.

The operational reliability of each of the above-mentioned systems is ultimately dependent on the operation of the TARGET system. The settlement leg which is an essential part of a payment transfer is effected through the TARGET system. If there are disruptions in TARGET none of the other systems will be able to operate satisfactorily, which may cause a significant risk of a crisis in the entire financial system. The CLS system is dependent in the same way not only on TARGET but also on the corresponding systems of all the currencies handled in it. A disruption in TARGET may reflect through the CLS system on the national systems of currencies participating in it.

Domestic systems used in interbank funds transfer (the POPS system for large-value transfers and cheques and the PMJ system for retail payments) are also dependent on the operation of the TARGET system. These systems have – with the exception of a few minor disruptions – operated satisfactorily. The ATM and card transfer networks, which are an essential part of domestic payments, have operated without major disruptions.

Many payment systems are dependent on the operation of TARGET.

Cross-border bank mergers, which have become increasingly common, have an impact on the way banks use payment systems. Many bank mergers also involve the centralisation of IT functions in order to cut costs. This creates a situation in which the user of the payment system is located in another country than the bank's information technology or payment system. In normal circumstances, this kind of remote use of a payment system should not, in principle, involve any particular risks. But in exceptional circumstances, remote use may cause more risks than local use.

Increasing outsourcing of banks' operations may also result in remote use of payment systems. Many international banks transfer their IT centres to countries where the costs are lower. In future, this may also apply to Finnish banks. These projects create new challenges to banking supervisors and overseers of payment systems. On the other hand, a different kind of development is also emerging. When a bank's size reaches a certain level it is apparently no longer profitable to outsource operations. Instead, it is more efficient to centralise them to one or several locations within the bank.

[4] The Continuous Linked Settlement (CLS) system is a foreign currency settlement system, through which FX transactions are settled using simultaneous crediting and debiting in the books of the CLS bank.

Participants have a considerable amount of liquidity for settling payments.

Payment system liquidity

The liquidity available in the BoF-RTGS for participants' payments consists of their assets and intraday credit granted by the Bank of Finland. As a whole, the system participants have had a substantial amount of liquidity for settling their payments (Chart 45).

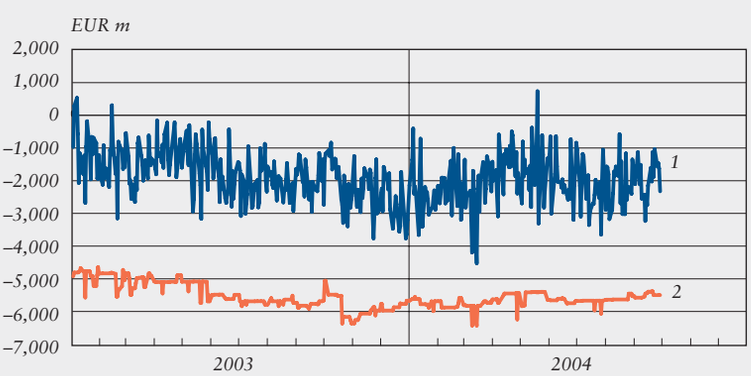
The participants have, however, chosen clearly differing strategies for liquidity management. Some account holders have an adequate account balance for effecting payments due to minimum reserve deposits, and therefore they only need a small intraday credit limit. Others have to use a higher credit limit because their operations call for extensive and active payment traffic. There are also differences in limit management: some participants actively change their limit, others keep it unchanged. There does not seem to be a common factor behind the strategy choices; for example, the size of the participant seems to be irrelevant.

The Eurosystem is harmonising its collateral policy so that the same collateral is eligible in all the euro area countries. This has an impact on the liquidity available to TARGET participants because only this collateral can be used as collateral for intraday credit. The objective of harmonising the collateral framework is, for example, to ensure the homogeneity of collateral and the sufficiency of collateral for covering intraday credit and the Eurosystem's credit operations. Both these requirements can be covered by the same collateral.

Harmonisation was started in summer 2003 when securities denominated in national currencies of EU countries outside the euro area were removed from the list of eligible collateral. This did not have a significant impact on the liquidity available in the BoF-RTGS. Giving up the use of certificates of deposits, as they currently are, within a three-year transition period is an important change for Finland. Certificates of deposits have

Chart 45.

Participants' minimum balances and intraday credit limits, total in BoF-RTGS



1. Total minimum balances
2. Total limits
Source: Bank of Finland.

Box 6.

Assessment of the safety and efficiency of the Finnish retail payment system

According to a preliminary assessment by the Bank of Finland, the Finnish interbank retail payment system (PMJ) meets the standards for retail payment systems.

PMJ is a Finnish system for handling interbank low-value, retail payments. The system is used for transferring domestic customer payments and related data when the recipient's account is in a different bank than the sender's. The most important payments are credit transfers, recurrent payments, direct debits and card-related payments. Approximately 1.8 million transactions are transmitted daily in the system, the value of these transactions totalling approximately EUR 700 million.

The payment system is based on a bilateral data exchange, rather than on a centralised clearinghouse as is generally the case in other European countries. Each bank sorts the transactions related to customer accounts in other banks according to the respective banking group and issues the data on the payment transfers as batches, several times a day. The banks debit and credit their own customer accounts according to the detailed payment instructions received after the settlement has taken place in the Bank of Finland's Real-Time Gross Settlement (BoF-RTGS) system. For the settlement, each bank calculates the amount receivable or payable between each and every bank and forwards these positions to the BoF-RTGS system. Based on these calculations, in a clearing run initiated twice a day, the Bank of Finland makes the settlement transfer, effecting the respective credits or debits to the banks' BoF-RTGS settlement accounts.

Within the Eurosystem, the national central banks have taken on the task of assessing the respective country's retail payment systems. Each national central bank first makes an assessment of its national system, after which the aim is to make these preliminary assessments comparable.

In assessing payment systems, commonly accepted standards are used which set minimum requirements on the operation of a reliable, secure and efficient payment system. There are a total of 10 such requirements which systemically[1] important systems must meet. Other prominent systems[2] should fulfil six of these requirements. PMJ is systemically important in Finland, the stability of which is crucial to the entire Finnish financial system, for which reason it must meet all ten requirements.

In spring 2004, the Bank of Finland made a preliminary evaluation of the PMJ using the above-mentioned requirements. According to the assessment, the system fulfils all the ten requirements. Even though the system meets the minimum requirements, the Bank of Finland sees that the banks managing the system ought to jointly publish a basic description of PMJ (rules, procedures and legal basis). In the assessment of the system, it was also found that even though the system meets the technical safety requirements, it could be necessary for the banks to agree on common high-level technical security criteria for assessing the internal systems related to PMJ.

In comparison to many other retail payment systems PMJ is considered quite efficient. Besides start-up costs, the system does not involve any other costs because transaction-based fees are not charged. Each bank will, however, pay the costs of their own systems which are related to PMJ. The payment reaches the recipient quickly, eg a credit transfer is in the recipient's account already the morning of the following banking day.

[1] *Payment systems that can cause a crisis affecting the entire financial system.*

[2] *The third category is systems of minor importance, to which these standards are not applied.*

accounted for the majority of collateral used by the Finnish participants of TARGET, and therefore they have to prepare themselves for this change.

International banks have claimed that there is an insufficient amount of eligible collateral available. In recent years, real-time liquidity management has become essential due to the efficiency requirements the banks have been imposed on by shareholders. Certain banks in particular, which are active in foreign exchange transactions, have been forced to adjust to new kinds of liquidity requirements as the positions of the CLS system participants may fluctuate considerably – to one direction or the other – within a very short period of time. Not all major banks are yet part of the system, nor are all foreign exchange transactions eligible for CLS settled through it. This divides liquidity into separate pools and, in practice, increases liquidity needs.

With the changes in collateral policies, G10 countries' euro-denominated bonds located in the euro area and fulfilling the ECB's requirements for collateral are also accepted as collateral. After the transition period, also euro-dominated bank loans from all euro area countries will become eligible assets. These changes should fulfil the banks' expectations.

Prospects for development

The next generation of the TARGET system, TARGET2, should commence operations at the beginning of January 2007. It is based on a single shared platform. All central banks have preliminarily informed that they will adopt the single shared platform. The general specifications of the new system have been created and they include, for example, the services and contingency measures provided by the system. The advantages of TARGET2 include improved services and availability. The system specifications have been discussed with the market participants on several occasions, and the markets have an overall positive attitude towards TARGET2.

The new system is not completely problem-free in terms of market needs. One of the issues being assessed is whether the system will be open for payments early enough – certain market participants have hoped that the system would be opened already in the small hours of the morning. This is important also for Finland because one settlement run in our retail payment system PMJ is nowadays effected in the early hours of the morning. If TARGET2 does not open early enough risk management must be renewed for PMJ to be able to continue with the current practice in which the payments are credited to the end customer's account by start of the banking day. TARGET2's ability to fulfil user needs also in this respect is currently being assessed. However, the system has to be closed for some time during the night for maintenance purposes.

The current TARGET system does not cover all its costs, and therefore one

of the objectives of TARGET2 is to ensure cost recovery. It is essential to avoid giving unjustifiable financial support in order to, for example, ensure a level playing field for all large-value payment systems and to encourage them to achieve cost effectiveness.

TARGET and the future TARGET2 have, however, certain features that could be considered as being public goods that other systems do not have. TARGET is the only real-time gross settlement system that is provided by authorities and that uses central bank money. Moreover, extremely high-level contingency measures will be created for the system. Through their systems, central banks are able to offer participants liquidity for payment settlement. These are measures for reducing the vulnerability of financial markets to crises, and therefore, it could be justifiable for central banks to support their systems financially.

The CLS system has currently 55 direct participants and more than 150 indirect participants. The number of daily transactions varies between 100,000 and 140,000. In these transactions, the foreign exchange settlement risk has decreased significantly. In the CLS system, the clearing and settlement of foreign exchange transactions takes in general approximately 30 minutes.[5] This has facilitated the system participants' operations considerably because earlier, the process could take much longer. Nonetheless, approximately 40% of foreign exchange transactions are still settled outside the CLS. In light of current information, this seems to be an intermediate phase in the system's development because the number of settled transactions is increasing constantly. By the end of 2004, all the 15 currencies that are involved in the majority of foreign exchange transactions can be settled through the CLS system.

The number of transactions settled via CLS is increasing.

The CLS is apparently extending its operations to financial products for which its infrastructure can be utilised, ie to swaps and options. These plans improve the efficiency of financial markets by centralising as many operations as possible to one system. On the other hand, concentration increases operative risks.

In retail payment services, the most important issue is consumer and business confidence in the procedures and systems used. The efficiency of payment systems can be considered a key factor in this confidence. The biggest problem in retail payments has thus far been the expense and slowness, ie the inefficiency, of cross-border payments. For consumers this meant that the charges levied for cross-border payments were earlier clearly higher than those levied for domestic payments. With the EU's Regulation on pricing,[6] the banks

[5] See Continuous Linked Settlement Special Report (http://www.gtnes.com/payments/clsreport.cfm).

[6] Regulation (EC) No 2560/2001 of the European Parliament and of the Council of 19 December 2001 on cross-border payments in euro.

EU banking sector joint forum's (EPC) organisation has been renewed to make banks commit themselves more clearly to EPC's decisions.

have had to reduce the charges made on cross-border payments. For banks, the cost of making cross-border payments will remain unchanged until they can improve their systems. Hence banks will incur losses until the compatibility of payment systems is improved at EU level. In order to reduce these losses, banks will possibly have to apply cross-subsidisation or make some degree of upward price adjustments to domestic payment services tariffs.

Major increases in the charges on domestic payments have not so far been made. On the other hand, comparing prices is difficult due to the package pricing of banking services. In Spain, banks have introduced an extra tariff on cross-border payments that seems to be against the Regulation. The new EU countries may be more able to adapt themselves to this new environment. At least in Estonia – a new EU member since spring 2004 – banks have started to offer an EU payment service with a specific charge (approximately EUR 2), which is clearly lower than the fee on other cross-border payments. The Regulation applies only to euro-denominated payments (with the exception of Sweden).

The EU banking sector has established an important joint forum, the European Payments Council (EPC), through which came the creation of a comprehensive plan to improve the transmission of retail payments within the EU (SEPA initiative). This initiative contains, for example, plans for standardisation that would enable the straight-through-processing of payments as well as plans regarding card payments and mobile payments in addition to more general developments in electronic payment and infrastructure. The entire EU banking sector should, in principle, implement the decisions of the joint forum, and thus the European Payments Council resembles to some extent a self-regulatory community.

The work of the European Payments Council in its various areas of activity has commenced well. Its work was, however, slowed down in spring 2004, which was mainly due to organisational changes. The organisational changes were adopted in order to improve the implementation of proposed initiatives and to better prepare for the participation of the new EU countries in the work of the European Payments Council. The changes include the establishment of a secretariat and a budget. The changes have also affected the division of task and composition of the organisation's working groups. The organisation will be registered under Belgian law as a non-profit organisation. The positive aspect of this reform is that banks now have to commit themselves more strongly to the decisions taken.

In terms of systemic risk, electronic money systems are not important, but if the use of electronic money were to increase, it would have an impact on efficiency as the use of electronic money is less expensive

than using cash. So far the use of electronic money has been limited, and many electronic money systems have disappeared due to a very limited use. One reason for this development is the cost incurred to customers from the use of electronic money and the traditional question of which came first, the chicken or the egg. In this payment area, operators with extensive resources, such as banks, seem to succeed best. Almost all other service providers have disappeared from the market. On the other hand, large telecom operators might be interested in this payment area.

The Finnish press reported in spring 2004 that Nordea, Sampo and the OP Bank Group are planning to give up the Avant cash card. According to the reports, the cash card which should have replaced cash has not interested consumers since the minimum limit on credit card purchases was abolished. In Sweden, the use of the 'Cash' cash card, which corresponds to Avant, will be stopped due to low levels of popularity. In March, Nordea, Sampo, Elisa and Automatia introduced mobile money into the market. It is a payment application for mobile phones for effecting mainly low-value payments. More information on the service is available in Finnish and Swedish at (http://www.mobiiliraha.fi/). The success of this new service is still hard to assess. The OP Group opened a similar kind of service at the end of 2002 (http://www.digiraha.net/). Estonia too has a very efficient mobile payment-based service.

The misuse of payment cards based on the magnetic stripe technology has increased worldwide. Therefore Finnish banks will, within the next few years, stop issuing debit cards that are based on this technology. The aim is to replace these cards with international cards that offer the same service and are already equipped with EMV chip technology that more effectively prevents misuse. The transfer schedule varies across banks. Moreover, the transfer requires the updating of EFTPOS terminals, and the fees charged from customers for using the card are likely to be higher. On the other hand, this development clarifies the division of costs in payment because services have a certain price and they are no longer part of package pricing.

There will be changes also to the ATM networks used by banks. In summer 2004, banks announced that all Finnish banks will start using 'Otto.' ATMs by the end of the year. The banks objective is to cut costs. There are currently approximately 1,700 'Otto.' ATMs and approximately 280 ATMs owned by other banks, some of which will be converted into 'Otto.' ATMs. Overall, the number of ATMs will decrease by some two hundred. The schedule for these changes is still open, and currently two ATM networks operate in Finland.

The operating environment is undergoing considerable changes – challenges exist, but no major threats.

Securities clearing and settlement systems

Integration of the securities market infrastructure – through both systems integration and ownership arrangements – is a process currently taking place in the European and global operating environment. The operating environment is undergoing sweeping changes, but there are no major threats on the horizon.

European market participants have focused on promoting new technological solutions. Central Counterparty (CCP) clearing,[7] originating from derivatives clearing, has become a market standard in an increasingly large number of cash markets.

The post-trading infrastructure of the European securities markets continues to be very fragmented. The smooth functioning of securities clearing and settlement systems within the EU is much more crucial than the integration of marketplaces. Market participants should therefore give priority to the implementation of standards, such as those issued by the European Central Securities Depositories Association (ECSDA). Inefficient clearing and settlement systems impair market participants' ability and willingness to engage in EU-wide securities trades, irrespective of the level of integration. Such inefficiencies reduce financial market liquidity and unnecessarily increase the price of capital. An important step forward in the infrastructure of the North-European securities market was taken upon the signing of an agreement between OM HEX[8] and the Swedish CSD Värdepapperscentralen (VPC) on the establishment of a Nordic Central Securities Depository group based on a common technology platform; the agreement was first made public in April in the form of a letter of intent and concluded at the end of September (Box 7).

The combination of regional stock exchanges to form larger entities, through either ownership arrangements or systems integration, is important from the point of view of enhancing their competitiveness. From the perspective of fostering competition, efforts aimed at establishing a single EU-wide central securities depository cannot, however, be considered worthwhile supporting.

Operational reliability of systems

From the international perspective, there are major differences in securities clearing and settlement systems and registration procedures. In a number of countries, the realities are based on the use of (partly) physical securities, while other systems have already long developed an environment of book-entry securities, which has led to the

[7] In Central Counterparty (CCP) clearing, the service provider interposes itself as a new transacting party for both the buyer and the seller and takes responsibility on behalf of the original transacting parties for the payment of the purchase price to the seller and the delivery of the asset to the buyer.

[8] The name of OM HEX AB was changed into OMX AB on 31 August 2004 as part of the company's new brand strategy.

Box 7.

OMX status report

OMX[1] operations are broken down into two divisions:[2]

– OMX Exchanges comprise the Stockholm, Helsinki, Tallinn, Riga and Vilnius stock exchanges as well as the Finnish, Estonian and Latvian central securities depositories and, through a minority holding, the Lithuanian central securities depository.

– OMX Technology operates globally, providing the financial institutions that make up its customer base with transaction technology, processing and outsourcing services.

In the pursuit of its strategy, OMX has so far proceeded mainly through systems integration. Examples of this are the launch this summer of operations of an integrated derivatives exchange[3] and the introduction in September of a common equities trading system on the Stockholm, Helsinki, Tallinn and Riga stock exchanges. These measures constitute part of the OMX strategy to create integrated Nordic and Baltic markets, and are supported by OMX Technology's strong position as a global systems supplier. Through OMX Technology, OMX is also interested in the growing Asian markets.

Another way to proceed in integration has been through ownership arrangements. The latest example of this was the acquisition of a majority holding in the Vilnius Stock Exchange. The sale of the APK to the Swedish central securities depository Värdepapperscentralen VPC, in anticipation of the establishment of a Nordic Central Securities Depository group, and the likely forthcoming common clearing and settlement platform constitute an important competitive factor in the North-European market.

OMX has sought to induce other NOREX[4] stock exchanges, especially the Copenhagen Stock Exchange, but also the Oslo and Iceland Stock Exchanges[5] to participate, on an ownership basis, in a Nordic stock exchange group. Cooperation with these stock exchanges is a reality, while consolidation is not excluded. OMX has envisaged expansion of its regional market model approach towards eastern Central European stock exchanges. It has expressed interest in the Warsaw Stock Exchange, which is the biggest among the new EU countries' marketplaces. In general, increasing interest is shown elsewhere in Europe in the new EU member states' markets, particularly in the Warsaw Stock Exchange.

The benefits that can be derived from systems integration based on a common platform and trading system are incontestable. This permits the simultaneous creation of a larger domestic market, which in turn promotes access by companies listed on the Helsinki Stock Exchange to an increasingly wider investor base. The combination of regional stock exchanges to form larger entities is important from the point of view of enhancing their competitiveness.

OMX had thus far observed a vertical integration strategy. In publishing its intention in spring 2004 to combine the Finnish and Swedish central securities depositories, OMX took its first step towards horizontal integration. The new Nordic – at the initial stage Finnish-Swedish – Central Securities Depository group intends to use a common system platform. A clearing and depository system will be developed with market participants building on an OMX product concept. VPC will acquire and hold the entire share capital of APK.

The whole group's ownership will be divided equally between OMX and the principal shareholders of VPC, ie large Swedish banks. Access to the ownership is also reserved to a selected group of Finnish market participants. The relevant agreements were signed on 24 September, and measures to separate APK from the OMX corporate structure are underway.

For the time being, the Baltic central securities depositories continue to be held by OMX through local stock exchanges, and will not be involved in the ownership arrangements of the two central securities depositories.

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[1] The name of OM HEX AB was changed into OMX AB on 31 August 2004.

[2] For more information on the merger of OM AB and HEX Plc, see the Bank of Finland Bulletin, Financial Stability, special issue 2003 (Box 4).

[3] The integrated derivates exchange and clearinghouse operates in connection with the Stockholm Stock Exchange, which started trading in euro-denominated derivatives based on Finnish shares on 14 June 2004. Finnish derivatives trading will be transferred to the Stockholm Stock Exchange by the end of 2004. Execution of Finnish derivatives will take place locally, ie settlements related to the execution of derivatives will be effected in Finland through the Finnish Central Securities Depository (APK) and custodian banks.

[4] The NOREX group includes the Stockholm, Helsinki, Tallinn, Riga, Copenhagen, Oslo and Iceland Stock Exchanges.

[5] On 1 October 2004 OMX confirmed having started negotiations with the Copenhagen Stock Exchange on closer cooperation.

The new clearing and settlement system has reduced risks in equities clearing and settlement and increased system reliability.

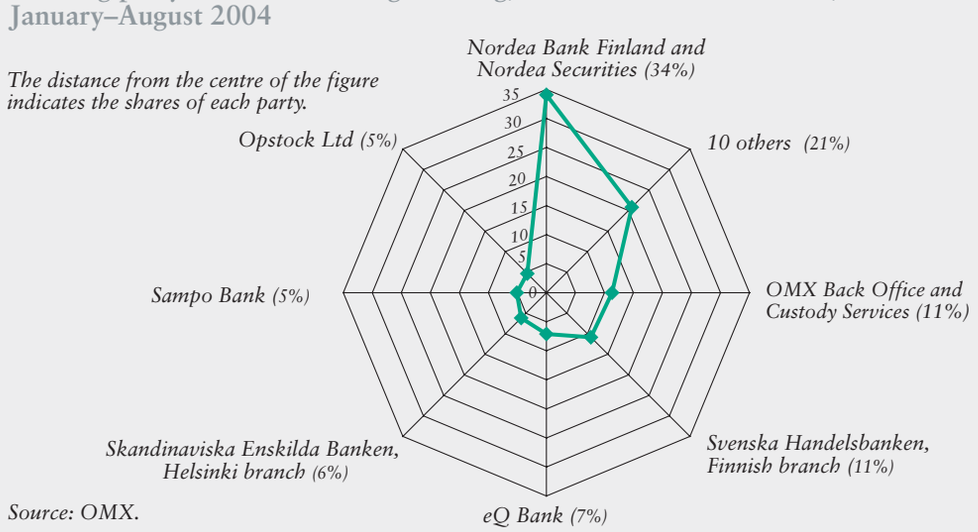
achievement of high levels of standardisation and automation. These differences have a direct impact on the operational reliability of systems; the very nature of the diverse risks becomes relevant in different systems.

As part of its ESCB tasks, the Bank of Finland annually assesses the Finnish Central Securities Depository's (APK) clearing and settlement system for bonds (RM system), in which the securities deposited as collateral to the Bank of Finland are registered. The latest assessment confirmed the system's capability of meeting the necessary requirements for processing eligible assets used in Eurosystem credit operations. The assessment paid particular attention to the adequacy of continuity and contingency arrangements. Overall, there have been no significant problems in the Finnish securities systems infrastructure during the current year. Trades in debt securities and equities continue to be settled in separate systems, which cannot be considered efficient. Priority should be given to transferring all instruments into a single clearing and settlement system.

The ESCB also makes an assessment of links eligible for transferring Eurosystem collateral. The use of these links has, however, been very limited in Finland, as elsewhere in the euro area. No new links requiring assessment have been recently established between Finland and the euro area, nor have there been changes in the existing ones. Organisational changes in companies maintaining these systems also have an impact on system reliability. Continuous evolution of the relevant infrastructure places special demands on authorities responsible for assessment.

Chart 46.

Clearing party shares in exchange trading, % of transaction volumes, January–August 2004



Source: OMX.

Introduction by the APK of a new clearing and settlement system (HEXClear) at the end of 2003 has reduced risks in equities clearing and settlement and increased the reliability of post-trade processing. Even if HEXClear is a completely new and modern system, both its introduction and first year of operation can be said to have progressed smoothly without major problems. Settlement of on-exchange trades has gone well within the standard settlement period. During the first six months, 99.4% of these trades were settled on schedule. The availability rate[9] for equities clearing and settlement was 98.6%. There have been disruptions affecting the activities of clearing parties, but system flexibility has prevented any serious consequences.

While the new system has enabled a more flexible market entry for clearing parties, the operational challenge in Finland continues to lie in the strong concentration of settlement transactions on a few clearing parties. This, in turn, is considered a risk for smooth post-trade processing (Chart 46).

Concentration has, however, diminished slightly in the current year. Worthy of note is the increased proportion attributable to OMX Back Office and Custody Service. In 2003, its proportion of the volume of settled on-exchange trades was 7%, as compared to 11% in the current year. The growth can be considered significant in the Finnish market, and the underlying reasons may be found in the benefits derived from the merger between HEX and OM. Share turnover on stock exchanges has also concentrated on a few intermediaries in all Nordic and Baltic countries (Table 10).[10] In this comparison, Finland however proves to be the least centralised country.

In Finland, clearing and settlement of trades is concentrated on a few clearing parties, although exchange trading is least centred in the Nordic countries.

During the period under review, the due-date settlement rate for money market trades was on average 99.4% and the availability rate excellent at 99.9%. In the clearing and settlement of both equity and money market trades, there have been several disruptions in communications, but HEXClear enables remedy of disruptions on an intraday basis. Hence, the risk of critical consequences of disruptions has diminished significantly compared to the old equities clearing and settlement system, which was strictly tied to daily schedules.

Concentration of outsourcing services on a few service concessionaries increases the risk of system vulnerability. Decentralised areas of responsibility may cause unnecessary delays in the disentanglement of distur-

Table 10.

Stock Exchange members' share in equity turnover in the Nordic and Baltic countries in 2003, %

	Denmark	*Finland*	*Iceland*	*Norway*	*Sweden*	*Estonia*	*Latvia*	*Lithuania*
5 largest	*53*	*31*	*84*	*48*	*42*	*86*	*59*	*95*
10 largest	*71*	*53*	*97*	*75*	*67*	*97*	*81*	*100*
15 largest	*80*	*72*	*100*	*87*	*84*	*100*	*97*	*100*

Source: Nordic Council of Ministers.

[9] The availability rate is determined by the targeted operating time of a service and by the scope and duration of a disruption.

[10] The small number of intermediaries in Baltic and Icelandic exchanges restricts comparability.

bances and, when aggravated, even lead to liquidity problems among market participants. There is also an apparent danger of the realisation of key person-related risks in the context of ongoing large-scale structural changes.

System liquidity

The APK's clearing and settlement systems enable liquidity savings.

Introduction of the new RTGS-based equities clearing and settlement system, HEXClear, has increased flexibility in the liquidity management of account operators and enhanced reliability and efficiency in equities clearing and settlement. The new system has proved useful, particularly in connection with some delays clearing parties have had in fulfilling their payment obligations, during the current year.

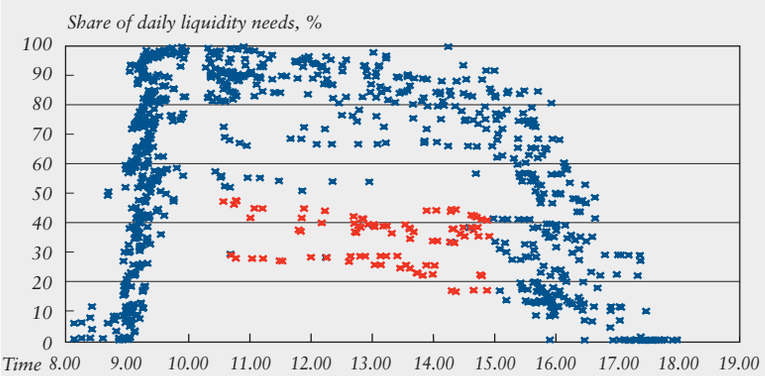
HEXClear has proved to be a slightly liquidity-saving system, as the majority of trades are settled in the day's first optimisation run. The rest of the trades can be completed in the second run effected during the day or in a real-time trade-by-trade settlement (Chart 47).

It is noteworthy that, in the sample month, the amount of liquidity tied to equities clearing and settlement decreased only seldom between 11 am and 3 pm below half the liquidity needs for the whole day (marked in red in the chart). Thus, clearing parties currently hold most of their cash holdings in the system longer than before. Efficient optimisation is characterised by the total pay-ins to the system's settlement account at the Bank of Finland in proportion to the value of all trades settled during the day. In April 2004, for instance, this proportion was 14.2%. On average 96.5% of all trades were completed in optimisation runs in the period of January–June 2004. The rest of the trades were completed in the RTGS settlement.

System flexibility represents a major improvement over the old equities clearing and settlement system. In the old system, there was only one batch run per day, which entailed a significant settlement risk. In their

Chart 47.

Liquidity tied to equities clearing and settlement by hour in April 2004



Source: Bank of Finland.

statements related to regulatory issues, the relevant authorities have sought to exert influence on establishing appropriate incentives for an early execution of payments and securities transfers, to the extent possible. Payments intended for the clearing and settlement of money market trades are also for the most part effected in the morning of the settlement day, although the APK provides the opportunity of making settlement transactions during the full length of the TARGET opening hours until 7 pm.

The importance of the APK's RM settlement and the amount of liquidity tied thereto have diminished in response to lower volumes, following the State Treasury's changeover to organising trading in benchmark government bonds by market makers primarily in MTS Finland[11] and the related post-trade processing through international central securities depositories, Euroclear Bank and Clearstream Banking Luxembourg. The small size of the Finnish debt securities market relative to that of the euro area is reflected in the value of Finnish debt securities settled in Euroclear; in July 2004, the value of settled transactions equalled about 1% of the total value of transactions settled in Euroclear in respect of 'domestic' bonds (as opposed to eurobonds) issued by the 12 euro area countries. In addition to normal counterparty risk, settlement in commercial bank money in international central securities depositories may also prove a factor that increases clearing parties' liquidity risk, for instance, when repatriating funds.

Using its payment and settlement system simulator,[12] the Bank of Finland has made an efficiency comparison regarding liquidity allocation in the APK's RM system for Finnish bonds and money market instruments. In this connection, the efficiency of the settlement method was tested with respect to the saved amount of clearing parties' liquidity compared to an alternative settlement method where all transfers of funds needed for purchases would be individually entered in the system and all funds received from sales would be returned to clearing parties individually. The effects were considerable in extreme cases: liquidity savings in the currently applied method exceeded, at their highest, EUR 100 million per day for a particular clearing party. By contrast, the comparison showed that, although the system is built to operate efficiently, some clearing parties can manage the liquidity needed for the system in an inefficient manner from the viewpoint of the entire system. However, the operating principle of the system is reliable, as it ensures that, regardless of user habits, customer funds entered into the system are not made use of internally among customers.

[11] An electronic marketplace operating in connection with MTS Associated Markets S.A. in Belgium. The activities of MTS Finland are regulated by a market committee, whose members are market makers, the technology supplier MTS and the Finnish State Treasury.

[12] See www.bof.fi/sc/bof-pss.

Box 8.

A study of Nordic and Baltic stock exchanges: from versatile cooperation to mergers

In May 2004, the Nordic Working Group for Securities Market Issues of the Nordic Council of Ministers issued a report on market efficiency in the Nordic and Baltic stock exchanges.[1] The report was prepared based on a questionnaire sent to all the stock exchanges in the Nordic and Baltic countries. The objective was to assess the legal environment, foreign investment, competition and cooperation with other stock exchanges, and general issues on individual markets. The information is based on the situation at the end of 2003. The key findings of the report concern the delisting of companies, cross-border clearing and settlement, and the lack of a central counterparty clearing function.

It should be noted that in all the countries except Estonia, the number of delisted companies was higher in 2003 than the number of new companies listed that year. In Finland, Denmark, Norway and Sweden, the number of remote stock exchange members has increased. The remote members are from other Nordic countries as well as from elsewhere in Europe. Several non-European operators have a subsidiary in London, for example which operates as a remote member of the stock exchanges in question.

The operators emphasised the importance of cooperation in various operations; the NOREX Alliance with its joint trading system, and the merger of OM with HEX were considered important projects. They are expected to be followed by further alliances and mergers in Northern Europe and in other parts of Europe. Over-restrictive EU legislation was considered a potential threat to market efficiency. Differing taxation practices were also seen as a threat. There is an obvious need to decrease legal differences between the Nordic countries.

Clearing and settlement was considered by all the stock exchanges that took part in the questionnaire as clearly the most important issue. The biggest obstacles to improved market efficiency were felt to be the existence of five separate central securities depositories in the Nordic countries, the problems and high cost of cross-border clearing and settlement, and the lack of a central counterparty clearing function, which is already regarded a market standard. The market operators were considered responsible for solving the central counterparty clearing problem.

The benefits of cooperation were seen to outweigh the threat of competition in the Northern European marketplace. The need for increasing cooperation between central securities depositories that is based on joint technology was emphasised as a means to improving the competitive situation in the European and global field. Interest in a direct remote membership of Finnish clearing and settlement systems, in particular, has increased in other parts of Europe.

[1] *Market efficiency in Nordic and Baltic Stock Exchanges – Final report, TemaNord 2004:534. http://www.norden.org/pub/miljo/ekonomi/sk/TN2004534.asp.*

Development prospects

Structural arrangements and systems integration continue in Northern Europe. OMX aims to implement a North European stock exchange alliance based on common systems and capable of successfully facing European competition. This objective is a complex, but attainable, constellation if the necessary efficiency gains are achieved ie if the costs can be held at their minimum.

So far, there has been room for improvement in the efficiency of Nordic stock exchanges (Box 8), but recent developments have been in the right direction. By contrast, transmission of costs may have important repercussions on market participants' willingness to develop markets. If intermediaries and ultimately investors are to pay the costs incurred, this may lead to investors looking for investments outside the Nordic countries.

The joining of VPC and APK contributes to combining the post-trading activities in the securities field in Northern Europe. However, only two central securities depositories have agreed on common technological solutions, and even these envisage introduction of a common clearing and settlement system at different times. The process is rather slow, and the question is 'whether' the necessary efficiency benefits can be reaped quickly enough in a consolidating environment. Both Finland and Sweden have recently introduced new clearing and settlement systems, which significantly reduces user willingness to engage in large-scale system investments. The currently ongoing process of separating the APK into a stand-alone company ties up the APK's scarce resources away from development work. Exclusion of Baltic central securities depositories from ownership arrangements may, in turn, hamper integration of these countries into the euro area.

Benefits from structural change are slow to materialise.

Another aspect of importance for market efficiency is the absence of CCP clearing in the Nordic countries, except for derivatives clearing. While CCP clearing is already regarded as a market standard in almost all European markets, markets currently have no incentive that would be strong enough to encourage the creation of a pan-Nordic CCP arrangement. In the Nordic countries, the results obtained relative to the costs incurred or an improvement in the competitive position are not perceived as obvious as among large Central European market players. Underlying this may also be the Nordic countries' perception of counterparty risk which, even if of key importance, is seen as being too small to warrant the required investment. On the other hand, the real magnitude of this risk has not been proved. While market participants acknowledge the necessity of CCP services in the long run, efforts by the authorities will apparently be needed to promote the matter.

The present Finnish CCP for the derivatives markets will practically

Box 9.

Stress testing of the clearing and settlement system of Finnish bonds – a simulation approach

It is essential for authorities to identify vulnerabilities within the Finnish infrastructure and to contribute to the strengthening of these weak points. In unfavourable circumstances, payment and securities systems can be direct channels of contagion, through which the problems of a market participant spread rapidly, as the number of open intraday positions between market participants is usually quite large. To assess the risks inherent in the operation of the market infrastructure and the adequacy of risk bearing capacity, artificial shock situations can be simulated to test the operation and strength of the system in special circumstances. It is also a means of assessing the adequacy of contingency plans.

The Bank of Finland tested the impact of potential problems of one of the parties to the Finnish Central Securities Depository's (APK) clearing and settlement system for debt instruments (RM system), based on real historical data retrieved from the system.[1] The RM system has been approved for executing the Eurosystem's credit operations. Hence its operational reliability and efficiency is crucial for the Eurosystem. This Box covers a review of the key findings of the stress tests.

The stress tests were performed against two hypothetical situations.[2] They were based on the one hand on the insolvency of one of the system users – namely clearing parties – and on the other hand on an operative disturbance. Both disruptions were based on the premise that a clearing party was unable to meet its payment obligation. The operation of the RM system – including the details and requirements concerning its operation – could be re-enacted in a life-like manner because the number of clearing parties and transactions is relatively low. One of the requirements is that securities can be transferred to the buyer's account against payment only, known as delivery versus payment (DvP). The weak point of the analysis was that the clearing method used differed somewhat from the one used in the actual system, for example in terms of the mechanism used for solving queues. The liquidity effects presented below can therefore be more pessimistic than in the real system in similar situations.

A situation, in which a clearing party is insolvent, is unlikely, but possible. In this respect, the impact on other clearing parties of the inability of one party to meet its payment obligation was tested. Four cases were studied in which a single clearing party's insolvency poses the most serious problems to the system. In these cases, the payment obligations which were already binding in terms of clearing were the highest under the sample period. The impact of irrevocable transactions was assessed on the day the clearing party lacked liquidity and on the two following days. The impact was already biggest on the same day, with a single party to the system suffering a shortage of liquidity as high as EUR 115 million that same day.

From the perspective of the entire system, an operative disturbance experienced by one party has a similar impact on the system as would have an individual party's insolvency. In light of the events in recent years, it is more reasonable to examine operative disturbances. Their examination with historical data is also justified in modelling terms, because these events typically occur unexpectedly, without the affected parties being able to adjust their behaviour in advance. In testing the impact of an operative disturbance, the assumption was that one party to the system was unable to operate in the system on one entire settlement day. Moreover, the party was unable to send or receive payments. The assumption was extended to also apply to contingency plans. A situation similar to the

[1] *The data used included the transactions of the settlement days in April 2004. It covered the features of the system and was sufficiently detailed for the results to be analytically justifiable.*

[2] *The Bank of Finland's payment and settlement simulator was used in the modelling (see www.bof.fi/sc/bof-pss).*

assumption has not yet been experienced in Finland.

An operative disturbance was aimed in turn at each of the clearing parties on the 20 settlement days of the data. As a result, a total of 260 separate shock situations could be created. At system level, one clearing party's inability to operate paralysed the settlement system so that, at worst, 80% of the transactions could not be settled.[3] The liquidity effect on each clearing party was calculated by comparing the amount of money in possession of each clearing party at the end of the settlement day to the amount of money in possession at the end of a normal day. The risk bearing capacity was assessed based on the known liquid assets of the counterparties for monetary policy. In this context, the biggest liquidity effect relative to the RTGS limit[4] was chosen, as a means of describing the seriousness of the impact of a single disturbance.

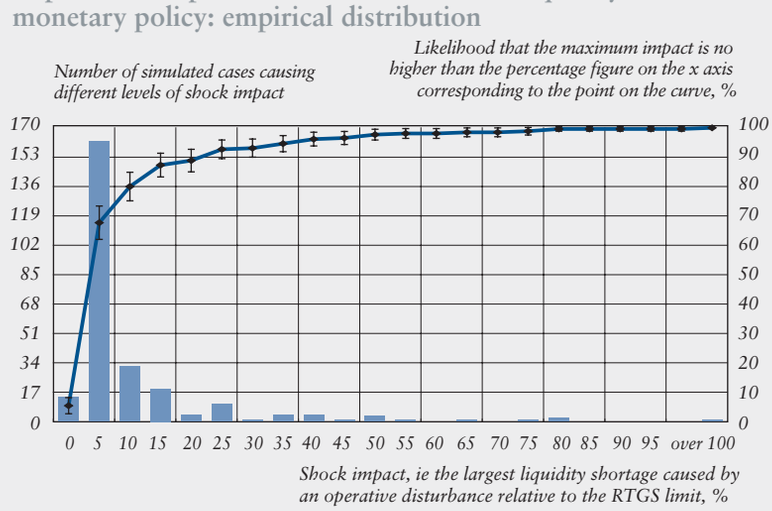
Chart shows the distribution of shock impacts in the cases studied. In most cases, the impact remains small - even in the worst situation - in relation to the liquid assets of the clearing parties. In 50% of the cases, the liquidity effect was less than 1.6%, and in 95% of the cases, the shock impact was less than 35% of the RTGS limit. The distribution of shock impact is denoted by the cumulative distribution function with a limit of error of 95%, if the assumption is that the studied sample represents the clearing and settlement system well. The possibility of a high liquidity effect may be higher than described because the data did not include a large issuance. On the other hand, the assumption in the analysis was that each clearing party was as likely as the other to cause an operative disturbance in the clearing and settlement system. In reality, the differences in the continuity and contingency measures of clearing parties affect their ability to recover from disturbances.

[3] *The figure was calculated as a ratio of cash and asset transfers of unsettled transactions and the total turnover of each settlement day. The value of asset transfers was calculated based on the nominal value of debt instruments.*

[4] *The RTGS limit was used as a comparable indicator of cash assets between participants. However, some of the clearing parties had to be excluded from the assessment.*

Chart.

Impact of an operative disturbance on the liquidity of the counterparties for monetary policy: empirical distribution



1. Volume (LHS)
2. Distribution function (RHS)
Source: Bank of Finland.

Do envisaged infrastructure solutions support competitiveness in the EU?

cease operations by the end of this year, when transfer of Finnish derivatives to the Stockholm Stock Exchange will be completed.[13] This means reduced risks but, on the other hand, the CCP may become a source of disruptions for the integrated markets. The Swedish central bank has assessed the CCP for the derivatives markets of the Stockholm Stock Exchange in its existing capacity, to the extent it is used for the clearing and settlement of trades containing Swedish underlying assets, and noted that it meets the recommendations set for international CCP risk management.[14]

The specific requirements set by the central bank within the framework of its oversight functions – stability and reliability – are of key importance in the assessment of ongoing key changes in the Finnish and North-European securities systems infrastructure. Finnish legislation also imposes obligations related to the central bank's oversight role vis-à-vis the APK. The APK remains at least for the time being a separate Finnish legal unit, assuming the status of a VPC subsidiary, as current Finnish legislation requires that a central securities depository be a Finnish limited liability company with operations organised locally.

Ownership of the new Nordic Central Securities Depository group is mainly retained by the VPC's old shareholders, ie large Swedish banks, which have incentives of their own for making decisions on development projects. The ownership structure of the group necessarily affects future plans for development. Evidence of this is provided by an examination of activities of international central securities depositories with ownership structures similar to those of VPC, for instance, in the development of links between central securities depositories; compliance with common recommendations and standards, issued with a view to guiding market operations, is often crowded out by competitive incentives. Development of financial markets requires liberalisation of old 'fiefs' for competition in order to improve competitiveness via innovation. Access to the new group's ownership is also reserved to selected Finnish market participants, but there is a danger of Finnish ownership remaining fairly small. This will inevitably affect the group's operations and the way in which different development projects are prioritised.

Representation of issuers, preferably as owners, in management would seem useful for creating appropriate incentives. This would prevent pricing policy, which needs to be determined so as to cover the costs incurred, from becoming most beneficial to clearing parties. One of the aims of the EU is to promote the availability of financing and reduce its price in an effort to ensure the

[13] The transfer will not affect Finnish derivatives traded on the German Eurex.
[14] CPSS-IOSCO (2004): Recommendations for Central Counterparties, Consultative Report.

competitiveness of the economy. Future infrastructure solutions will play a central role in attaining these objectives. If the costs incurred by central securities depositories were to be paid by issuers, companies might be less disposed to issuance within the EU. This would erode the securities markets and act as a barrier to further improvement in the corporate sector's competitiveness.

Developments in regulation and oversight, the role of authorities

Creation of integrated markets has proceeded at a very different pace across sectors. The realisation of a more integrated and efficient financial market infrastructure, which is a key sub-area of the process as a whole, has proved slower than hoped for in respect of securities clearing and settlement and cross-border retail payments. The 1999 Financial Services Action Plan (FSAP) did not initially foresee measures concerning the financial market infrastructure, but the European Commission has promoted developments by its recent, strong initiatives in the absence of adequate actions by market participants.

The EU authorities, such as the European Commission, central banks and supervisors for various sectors, have paid attention to risks and supervisory structures arising from integration and market development to ensure that banking and securities market supervision and oversight would be commensurate with market participants' mergers and other needs related to cross-border provision of services. Examples of this are work done within the ESCB and the CESR[15] to finalise and implement EU securities clearing and settlement standards and the European Commission's initiative for a new legislative framework for payments. The first example is closely related to the European Commission's work in the area of financial market infrastructure and takes account of legislation briefly dealing with arrangements for banking and securities market supervision within the EU.[16] However, the existing legislation does not unambiguously resolve supervisory or oversight arrangements for the securities market infrastructure. Important market players may constitute part of the infrastructure, but assume different types of risks depending on licensing and statutes. Features typical of these institutions should be taken into consideration in their supervision. Problems in payment systems oversight and supervision are not equally acute from the Finnish point of view.

The existing legislation does not unambiguously resolve supervisory arrangements.

Account must also be taken of Eurosystem central banks' oversight responsibilities in the area of market infrastructure in order to avoid over-

[15] The Committee of European Securities Regulators (CESR).

[16] Directive 2000/12/EC of the European Parliament and of the Council relating to the taking up and pursuit of the business of credit institutions and Directive 2004/39/EC of the European Parliament and of the Council on markets in financial instruments (Investment Services Directive II).

lapping and conflicts of interest. Central banks already have user standards of their own for securities settlement systems. On the basis of their oversight functions, central banks have established their own oversight standards for payment systems and agreed on the division of responsibilities.

The European Commission is preparing a new legislative framework for payments. The basic idea is that provision of payment services would be restricted to three different types of market players: traditional credit institutions, electronic money institutions and payment institutions. In its activities, each type of institution is exposed to different risks of various sizes, on the basis of which the strictness of regulation is determined. Credit institutions are subject to strict regulation and capital requirements, while regulation of electronic money institutions is more measured, comprising reduced capital requirements, but strict limitations for authorised activity. A new element is the proposed moderately relieved regulation for payment institutions. Regulation applied to these institutions would mainly improve the protection of payment service users: it would include various disclosure requirements for payment service users and regulation of payment delivery times. The EU Council and the European Parliament are likely to adopt the new regulatory framework in 2005.

Is the new legislative framework for payments, as proposed by the European Commission, adequate?

The new regulatory framework is welcome, as it will harmonise the currently highly diverse payment legislation within the EU and promote the transparency of payment services. It will provide for a minimum level of protection to payment service users and foster competition and thereby overall confidence in payment arrangements. Financial difficulties encountered by payment institutions might reduce overall confidence in these institutions and, in the worst case, in all payment service providers. Business operations unrelated to payment services may also cause risks, thus endangering the financial stability of payment institutions. It may be asked whether regulation envisaged for payment institutions should be slightly tightened, eg by setting capital adequacy requirements or restrictions concerning authorised operations.

The European Commission is urgently preparing a regulation on payer-related information to be transmitted in connection with credit transfers. This is related to specific recommendations on efforts to combat the financing of terrorism, issued for global application by the Financial Action Task Force on Money Laundering (FATF) in 2001. As, according to this regulation, the EU is a single jurisdiction, only minimum details need to be transmitted with a credit transfer message, but all information must be available from the sending bank within three days upon request. Payment service providers will incur costs for the implementation of the

regulation, as they will be required to deliver information for payer identification at a very short notice. Considering its background and objectives for combating terrorism financing, the regulation can be seen as a welcome measure.

In April 2004, the European Commission launched a second extensive public consultation regarding the securities market infrastructure, particularly in respect of post-trade processing arrangements, in accordance with normal EU procedures. The comments received by the end of July will be considered in assessing the need of a legislative initiative in this field, its contents and effects. For Finland, it would be important to resolve the legal certainty issues regarding multi-tiered ownership structures and indirect holding of securities in order to safeguard increasing cross-border ownership and upgrade investor and pledgee protection. A direct ownership structure, which is safe for the investor and enables safekeeping of securities and maintenance of securities accounts individually for each investor within the system of a central securities depository, should continue to be retained in the future as a parallel option to a multi-tiered ownership structure. Risk-averse investors should also be able to avail themselves of a credit risk-free securities market infrastructure. An advisory monitoring group, the 'CESAME' group, presented by the Commission in its action plan, has already started working. The composition of the group is relatively limited, but its work is intended to be open for external contributions. Finnish authorities consider the Commission's objectives merit support.

The European Commission's initiative on securities clearing and settlement is largely based on ESCB-CESR work done on the basis of recommendations issued by G10 countries in 2001; the aim of this work is to establish common rules for the EU area and promote safety, soundness and efficiency. Approval of draft standards was delayed until October 2004[17] because of differing opinions of the involved public authorities and market participants. Several important issues related, for instance, to the application of standards will be streamlined in the course of further work, including consultations among market participants. Owing to several parallel projects, the significance of the standards has even been questioned. However, the ESCB-CESR group intends to continue its work on the basis of a new mandate focusing especially on CCP risks. This work would also be based on recommendations published earlier by G10 countries.[18]

The new initiatives aim at providing an efficient competitive environment with a level playing-field.

Enhancing the competitiveness of EU financial markets is one of the

[17] For further detail, see the ECB press release dated 22 October 2004 (http://www.ecb.int/press/pr/date/2004/html/pr041022_1.en.html).

[18] BIS, CPSS-IOSCO (2004), Recommendations for Central Counterparties, Consultative Report.

European Commission's key objectives and closely related to the objective of efficiency. Efficiency is seldom realised by favouring a single market player. The securities market infrastructure is composed of a number of partly overlapping functions for which, in addition to central securities depositories, many market participants, such as central counterparty clearinghouses and custodian banks, are responsible. These companies operate from different starting points, and the narrow range of services offered by traditional central securities depositories causes the demand for services to shift towards service providers offering a large spectrum of services and credit facilities. Certain market participants may also gain cost advantages because of cross subsidisation. International central securities depositories with a strong position have become a threat to intermediary and custodian banks in terms of competition.

Non-uniform rules and standards for various market participants tend to reduce their possibilities to compete on a level playing-field. Of key importance is to remove barriers to market entry and system access and dismantle discriminatory or exclusive arrangements between market participants. The Commission has taken its first step in this area in respect of the securities market infrastructure by launching a public consultation on EU countries' securities trading, clearing, central counterparties and securities settlement.

Self-regulation as a means to achieve efficiency and flexibility.

Although legislation in many European countries does not restrict provision of payment services to banks only and institutions other than banks have made initiatives to provide payment services, practically speaking payment services are offered almost exclusively by banks. These initiatives have either not received sufficient support from users or been acquired by banks. However, the new legislative framework for payments may contribute to market entry by new payment service providers, such as payment institutions, thereby tightening competition in the provision of payment services. Increased regulation could, in principle, complicate market entry, but requirements set on new payment institutions are relatively moderate. Regulation and authorisation of new payment institutions can increase overall confidence in these market players.

In Finland, the Financial Supervision Authority (FSA) has revised its set of regulations. The most important standard from the point of view of payment and settlement systems is the standard on management of operational risk, due to come into force on 1 January 2005. The aim of the standard is that supervised entities identify the operational risks related to their operations and organise the management of these risks in accordance with their operations. In addition, supervised entities need to take care of adequate levels of information management and security and ensure prevention of criminal

abuse of the financial system. The Bank of Finland issued a statement on the proposal for this standard in spring 2004. As regards payment systems and instruments, the Bank of Finland noted that it may be necessary to specify more closely the types of changes to existing payment services that should be regarded as significant and would therefore require submission to the FSA for approval. This would enable avoidance of potential conflicts of interpretation.

Operations by self-regulating organisations

Markets' operational principles and requirements set on their operations are determined not only by the legislative framework but also by self-regulation. Accordingly, responsibility shifts partly from authorities to market participants, which brings both efficiency and flexibility to the regulatory framework. Self-regulating organisations here mean such entities that have regulatory powers based on legislation. According to applicable legislation, such organisations may comprise marketplaces for securities trading, central securities depositories and payment system operators. Authorities lend support to well-functioning self-regulation capable of giving unambiguous and comprehensive guidelines as regards the operational principles of systems and emphasising the responsibility of system participants for successful post-trade processing under all circumstances. Self-regulation should also guide system participants in a positive direction from the point of view of the operational reliability and efficiency of the system as a whole.

However, authorities need to assess the functioning of self-regulation, because it may lead to inefficiencies and risks owing to differences of opinion. This may be the case particularly in connection with user-owned systems if the self-regulating organisation's rules allow inequality or restrict participants' potential of exerting influence. Issues concerning the governance of systems and system operators are also important areas of assessment by the authorities. In certain questions, such as definition of risk management methods requiring considerable investment from participants, self-regulatory powers may, however, prove ineffective. Hence, the authorities should adopt a forward-looking approach that takes account of the position of the self-regulating organisation and is supportive of the organisation, so as to avoid market failures in the future. Recent examples of failures are losses suffered by a Norwegian central counterparty clearinghouse (NOS Clearing ASA) because of a participant's insolvency and losses incurred in an alternative trading system (EuroMTS) by other system participants as a result of unmeasured operations by a single participant.

Structural change is a challenge for the functioning of supervision and particularly for the securities market infrastructure…

Development of the oversight role

In its oversight role, the central bank meets challenges that stem from the above-mentioned structural changes and specific requirements of supervision and oversight. From the perspective of Finnish authorities, the separation of the Finnish Central Securities Depository (APK) from OMX and the creation of a new pan-Nordic Central Securities Depository group raise questions as regards the different risk profiles of VPC and APK and the potential spread of risks as well as the adequacy of the companies' ability to bear the relevant risks. The reliability of markets and Eurosystem credit operations must remain at least at current levels also in the future. The different operational principles of these markets and of the authorities of various countries require international cooperation to ensure that supervision and oversight, including reporting requirements and assessments, will not prove inefficient or impose too heavy burden on operators. Cooperation is likely to be exercised in the future by means of bilateral or multilateral Memoranda of Understanding, although experience gained from the oversight of supranational market participants elsewhere in Europe, such as the Euroclear group, show that the arrangements may encounter complications in certain areas, if not supported by regulation. Sub-areas covered by public authorities must be clearly defined, because the adequacy of resources for supervision and oversight also pose a challenge. On the other hand, oversight needs to be determined on the basis of results from supervisory cooperation and fluency in the exchange of information. Attention must also be focused on potential gaps in supervisory activities.

… but the division of responsibilities for payment systems oversight is also likely to come under discussion.

Risk analysis of functions related to safekeeping and custody of securities undertaken by banks whose operations may significantly affect the core infrastructure is an area for further development in authorities' activities. Largely the same custodian banks operate in all North-European markets and therefore exert considerable influence on the operation of the local infrastructure. If the implementation of new oversight standards becomes difficult and if the Basel II capital adequacy reform does not sufficiently consider liquidity and operational risks inherent in clearing, settlement and safekeeping, it may be necessary for central banks to individually assess the most important market participants.

In the area of payment systems, no significant structural changes have recently taken place, the pan-European systems TARGET and EURO1 have already been in operation for years and the STEP2 system, established last year for retail payments, has not – at least yet – developed into an important system. Therefore, particularly national retail payments continue to be cleared and

settled in each country's national systems. However, it is to be expected that national retail payment systems will be consolidated in the near future. Moreover, national RTGS systems will be abandoned and replaced by TARGET2.

To put it briefly, the division of oversight responsibilities between Eurosystem central banks provides that the central bank of the country of location of the payment system acts as lead overseer. With systems becoming increasingly centralised, it may be asked whether this division of responsibilities is still practicable. TARGET2 and payments transmitted via centralised retail payment systems continue to be important for national financial markets, and therefore national central banks have a keen interest in them. One possibility to allow for all central banks an effective participation in the oversight of systems they consider important would be to abandon the lead overseer arrangement and change over to a framework of an oversight group comprising the relevant central banks and a coordinating central bank. Discussions on the forms of oversight and common overall principles are currently underway among the central banks of G10 countries. Even if this does not have any direct link to the division of oversight responsibilities within the Eurosystem, the definition of which is the task of the ECB Council, the Eurosystem is also likely to discuss reforming its division of oversight responsibilities in the face of expected changes in market structures.

Organisation of the Bank of Finland

12 July 2004

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