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EUROSYSTEMET

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The cover portrays the work of
Matti Haupt 'Tanssijatar'.

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Preface

One of the Bank of Finland's key tasks is to participate in maintaining the reliability and efficiency of the payment system and overall financial system besides participating in their development. These tasks are closely interlinked with the objectives of the European System of Central Banks within the European Union. In accordance with its strategy, the Bank of Finland's activities are directed at promoting price stability as well as the stability and efficiency of financial systems and payment systems, in addition to the integration of European financial markets.

The Bank of Finland pursues its financial stability task in close cooperation with other authorities. Similarly to other central banks, the Bank of Finland put particular emphasis on analysing the financial system in its entirety and the impact of general economic developments on the state of the financial sector. The primary task of financial supervisors is to monitor the risks and legality of operations of individual institutions. At the same time, the competence to draft legislation concerning the financial system is vested with the relevant ministries.

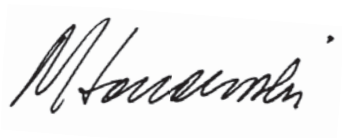
The financial system is stable and reliable when it is able to smoothly conduct its core tasks – including the intermediation of financing, transmission of payments, pricing of financial instruments and allocation of risks. In addition, the risk-bearing capacity of major financial institutions and the financial market infrastructure as well as public confidence in financial institutions and infrastructure must be sufficient to withstand even severe disruptions in the environment.

This report analyses the most significant threats to stability of the environment in which financial institutions operate, the state of the principal borrower sectors, the risk-bearing capacity of financial market participants and the reliability and efficiency of the underlying systems. This report also discusses various measures by authorities and other participants aimed at promoting financial stability and efficiency.

The Financial Stability report has the following main objectives: to inform financial market participants, other authorities and the public on the risks within the financial systems and threats to financial stability as well as the measures conducted in order to prevent these threats from materialisation. It is used to increase understanding of new and less controllable risks within the financial system and to promote discussion about financial stability issues. This report also seeks to highlight developmental needs of the financial system to promote stability and efficiency. Finally, the report functions as an accountability reporting instrument for the Bank of Finland.

The Bank of Finland has published its assessment on financial stability in the Bank of Finland Bulletin biannually on a regular basis, since 1998. A separate financial stability report released as a special issue of the Bank of Finland bulletin has been published since autumn 2003. Information presented in this report is based on data available on 27 November 2007.

Helsinki 27 November 2007



Deputy Governor of
the Bank of Finland

Summary

The current state of the Finnish financial system is stable and would likely withstand even considerable disruptions in the operating environment.

The unease that has spread from the problems in the US housing markets has shaken financial markets in developed countries throughout the latter half of 2007, and the international financial system is highly vulnerable at the moment. Overall, risks have increased from the date of publication of the previous Stability Report by the Bank of Finland a year ago.

Development of the Finnish financial sector continues to be very favourable. The most significant, although unlikely, risks and threats for the Finnish financial system in 2008 are identified as:

1) prolongation and deepening of financial market disruptions
2) rapid deterioration in international economic growth
3) problem situations of a financial institution operating internationally
4) operational disruptions in systems (operational risk)
5) data security risks.

The most significant threats in the operating environment of financial institutions operating in Finland are external and in the short term, related to the deepening of financial market turbulence and in the longer term, to risks to global economic growth.

Financial market disruptions could be prolonged and deepened by the constantly increasing estimates of the final amount of losses in the US subprime mortgage market or a steep increase in some other market segment where a significant number of structured instruments have been used to transfer risks. Market disruptions, steep increases in risk premia, and the reflection of the problems into equity prices in particular would result in losses to Finnish financial institutions. The significance of equity risk has increased in the investment operations of Finnish insurance and pension companies. Furthermore, deepening of the problems caused by the lack of transparency of the risks and uncertainty related to the banks' own liquidity needs would hinder the obtaining of market financing by Finnish financial groups. The significance of liquidity risks is highlighted, since banks and financial groups in Finland are also now more dependent than before on market financing.

Favourable forecasts regarding international and Finnish economic growth are based on the assumption that the turbulence in the financial markets will subside in the near future. Large losses may weaken banks' lending capacity. In addition, market disruptions may have a negative impact on business and consumer confidence. An uncontrolled unwinding of the global imbalance of saving and investments continues to be a threat to remain alert about. Rapid weakening of economic growth would increase banks' credit losses, although significantly only in the longer term.

Due to structural changes, the Finnish financial sector and its infrastructure are linked more closely than before to the international financial system and is therefore more susceptible to external shocks. Most integration initiatives entail the transfer of functions crucial to the operation of the economy either partly or entirely outside national borders. The transfer of functions, systems and expertise to abroad weakens crisis management and contingency planning at the national level. Furthermore, the present financial markets crisis management arrangements of the European Union entail an imbalance between the responsibilities and powers of the national authorities responsible for financial stability.

The profound changes in the infrastructure of the Finnish financial markets are primarily due to the establishment of the Single Euro Payments Area (SEPA) and various securities clearing and settlement initiatives. These changes are aimed at promoting efficiency, but at the same time these measures mean that banks are redesigning and centralising their information systems across national borders. Continuous concurrent changes increase the likelihood of materialisation of risks and vulnerability of the financial system, although operational risks primarily only affect the institution that has ended up in difficulties.

The significance of data protection in finance is mounting, since systems are developed towards real-time operations and services are integrated with companies' financial administration. Data security must also be ensured to maintain the confidence of the public.

Recent events have shown that a financial crisis may be triggered more likely than before from market disruptions. Therefore it is important that in their stress tests and contingency planning financial corporations review their vulnerability to market disruptions by using extreme crisis scenarios. Stress tests must also cover liquidity risks more thoroughly than previously.

Authorities on the other hand must prepare for crisis conditions where a disruption in the operation of the financial market sparks or fuels the crisis. A well-functioning flow of information between the financial supervisor and the central bank is essential from the outset of a crisis situation.

As the structural development of the financial sector continues, it is important that EU legislation strengthens the role of the authorities of the host country in crisis management as well as the supervision of nationally significant subsidiaries and branches of foreign banks in accordance with the principles adopted by the Ecofin Council in October. In addition, coordination of the activities of authorities, supervisors in particular, must be developed consistently so that differences in practices would not create an unlevel playing field.

As the introduction of the Single Euro Payments Area (SEPA) approaches, banks should improve communication about the changes to support the adoption of new payment methods by end customers, companies and the public sector in particular. However, development of payment services will not end with the first stage of SEPA. Development must focus on the benefits of automation, high level of data security and fulfilment of the needs of the end customers.

Operating environment

The recent unease in the markets has shaken the international financial system. In many ways, the turbulence has been unparalleled, and many important issues concerning financial stability have emerged in its wake. Uncertainty in the financial markets continues to be high and risk appetite low. Under these circumstances, the international financial system is highly vulnerable to any negative news or news that adds to the feeling of uncertainty. On the other hand, the timing of the market turbulence in a period of favourable global economic growth cushions the negative impacts. The most significant threats in the operating environment are external and in the short term, related to the potentially deepening financial market shocks and in the longer term, to risks to global economic growth. The domestic operating environment for financial institutions operating in Finland continues to be fairly favourable.

International economy and financial markets

Economic prospects are forecasted to remain favourable in Finland, the rest of the euro area and globally, although growth is expected to slow down.[1] The Bank of Finland forecasts that real economic growth in Finland amounts to 4.4% in 2007 and slows down to 3.1% in 2008. At the same time, the International Monetary Fund (IMF) estimates that global economic growth slows down from 5.2% to 4.8%.[2] Growth in the other Nordic and Baltic countries, with the exception of Norway, which are important from the viewpoint of the Finnish financial system, is also expected to slow down in 2008. Icelandic economic growth is even expected to turn slightly negative.

A special characteristic in 2007 has been a general unease in the financial markets of developed economies, triggered by problems in the US housing loan markets.

Subprime market turbulence

The market turbulence was triggered in August by an alarming rise in defaults of borrowers with poor credit histories (so-called subprime) in the US housing loan markets.[3] Signs of escalation in problems in the US housing markets had been out there ever since interest rates rose and the rise of house prices came to a halt, but in early 2007, the defaults began to rise sharply. International credit rating agencies began to downgrade the ratings of subprime mortgage-backed securities in June–July. Soon afterwards, in August, investors pulled out from the markets for these securities. This dried up the issuance of and secondary market trading in mortgage-backed securities.

Subprime market turbulence has shaken the international financial system.

These events occurred against a background of a longer-term evolutionary trend in the operation of the financial markets and banks in particular. Innovation in financial instruments in the 21st century has

1 Economic prospects are discussed extensively in Bank of Finland Bulletin 3/2007.

2 World Economic Outlook, October 2007.

3 See also Bank of Finland Bulletin 3/2007, Box 2.

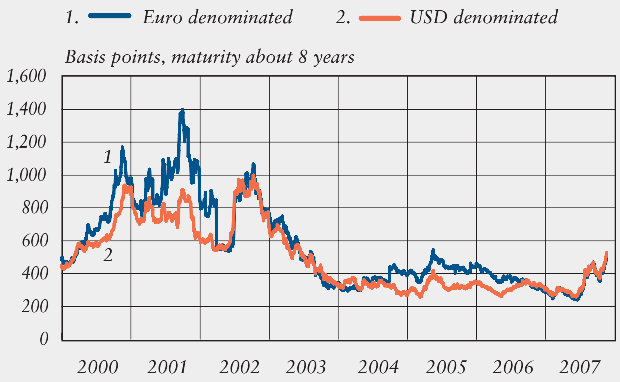
been concentrated on the redistribution of credit risk and more effective allocation than before away from banks to be carried by new participants. An exceptionally favourable credit cycle has coincided in the same period, which has been characterised by a low level of payment difficulties among borrowers and a stable increase in the values of collateral.

Serious liquidity disruptions in the markets.

Ample liquidity, which has persisted for several years, combined with a very low level of interest rates drove many market participants in search of additional returns in higher-risk investment vehicles than before. The increase in demand suppressed risk premia required by investors to historical lows (Chart 1). These conditions created demand for complex securitisation of different types of assets, which enabled the creation of securities with high credit ratings and higher returns than government bonds with similar ratings.

Chart 1.

Spreads between corporate (B rated) and government bonds



Source: Merrill Lynch.

The strong demand for risky assets was met increasingly by the US subprime housing loans, whose volume increased considerably in recent years. All in all, subprime housing loans are estimated to account for about 14% of the entire US housing loan stock at present. A majority of these subprime housing loans are securitised and sold away from the balance sheet of the bank that originated the loan.

As part of the bundling and redistribution of credit risks, banks also established a large number of off-balance sheet vehicles investing in long-term mortgage-backed securities and funded their operations by issuing short-term asset-backed securities.[4] Due to the yield differential between short and long-term interest rates, these companies generated yields from the maturity transformation they carried out. An additional incentive for the banks to transfer these assets off their balance sheets was to decrease their capital requirements.

The drying up of the market for mortgage-backed securities in August led to financing problems among off-balance sheet vehicles funded by short-term market finance, which banks were forced to patch up due to guarantees and credit lines they had granted. The extent of the problem took all participants by surprise, and some banks themselves ended up in difficulties due to the size of guarantees and credit lines they had granted to these companies.

Due to the activation of committed credit lines, banks have been forced to

4 Asset-backed commercial paper (ABCP).

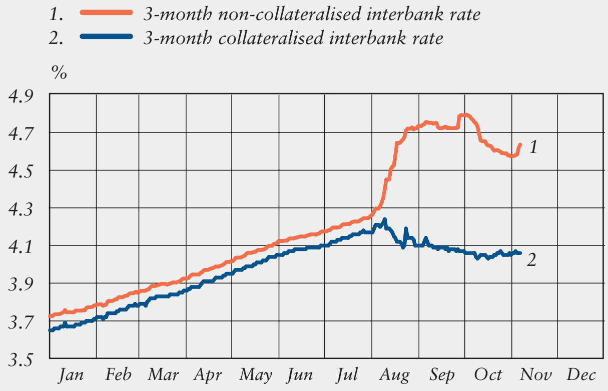
take a large quantity of mortgage-backed securities potentially entailing significant impairments in their balance sheets. This has increased the need of banks for liquidity and tightened capital requirements. At the same time, uncertainty about the total risks of money market counterparties led to disruptions in the operation of the interbank money markets. The yield spread between collateralised and non-collateralised loans in the interbank markets experienced an unparalleled surge in most major currencies and also in the euro area (Chart 2).

The European Central Bank and other central banks have injected many rounds of additional liquidity into the banking system to keep short term interest rates close to their policy rates. These central bank measures have been able to contain overnight market rates for the most part, but a lack of confidence and banks' uncertainty about their own liquidity needs in the interbank markets are still visible in the 3-month Euribor rate that is crucial in bank funding.

During the autumn, preliminary signs of market recovery were already emerging but in November the developments took another negative turn. The markets for mortgage-backed securities are still not functioning normally, and the marking to market of these assets is very difficult.

Chart 2.

Price of collateralised and non-collateralised money in the euro area, 2007



Source: Bloomberg.

Chart 3.

Price of credit-risk protection in 2007

Source: International Index Company.

Interest rates and asset prices

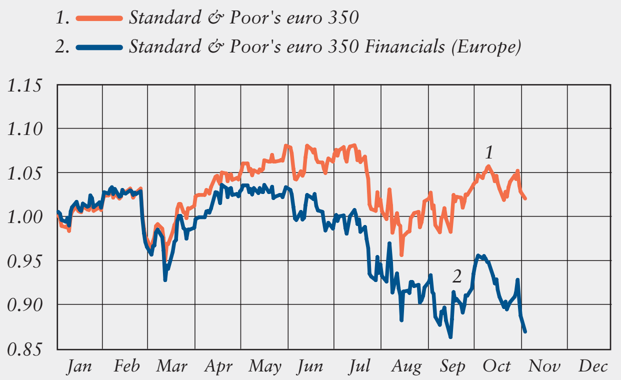
Interest rate expectations in the markets have decreased due to market unease. The growth of risk premia and the general weakening in the availability of finance squeezed monetary conditions although policy rates were kept unchanged in many economic areas. The risk premia required in the credit markets have began to widen again after a temporary contraction in early autumn (Chart 3).

Equity prices with the exception of the financial sector have been able to withstand the financial market turbulence relatively well (Chart 4). The price developments of equities have taken place against the background of expectations of sustained corporate profit performance, which is shown in the historically relatively moderate P/E ratios. Partly they are also the result of more moderate market expectations of future interest rate policies by central banks. The equity market volatility in major economic areas decreased in early autumn after the unease in June–August, but it has increased again in late autumn, reflecting increased uncertainty concerning the level of equity valuations.

The rate of growth in housing prices has slowed down in many countries after a prolonged strong upward cycle. The turn in the housing markets is particularly clear in the United States, where oversupply of houses is leading to a general decline in housing prices. Signs of a turn are also visible in other countries.

Chart 4.

Equity prices in the euro area in 2007



Source: Reuters.

Risks and vulnerabilities

Severe problems in the domestic financial institutions' operating environment may be caused by the prolongation and potential deepening of the international financial market turbulence and weaker-than-expected developments of the global economy. Problems in the international operating environment are felt in Finland as, for example, impairments of investment assets, increased liquidity and counterparty risks, increased borrowing costs and, in the context of weakening economic growth, potentially also as increased credit losses.

The significance of structured assets in the international financial markets continues to be high. Complex structures add to the uncertainty about who ultimately bears the risks. In the context of disruptions, uncertainty is easily spread from one market segment to another, preventing the normal operation of the markets. It is possible that the market turbulence is protracted and deepened. This could be caused for example by the constantly increasing estimates of the final amount of subprime losses or a steep increase in some other market segment where a lot of structured instruments have been used to transfer risks. Such areas include for example credit card and car loans in the US.

In Europe, corresponding turbulence could be triggered by significant credit losses in residential and commercial real estate loans. Many countries have experienced a steep rise in real estate prices in recent years, combined with a faster increase in the indebtedness of households than before. In the European mortgage-backed securities markets, the bulk of the collateral material is located in the UK and significant quantities also in Spain, Italy and the Netherlands.

Estimates of total losses incurred from US subprime housing loans vary significantly. Based on the impairments already announced by banks, it is obvious that a large amount of losses are still hidden. International hedge funds, which have received a lot of attention from a stability point of view in recent years, have also been forced to recognise fairly large losses, but overall they seem so far to have coped with the subprime turmoil with surprisingly little damage.

Forecasts concerning international and Finnish economic growth are based on the assumption that the situation in the interbank markets will normalise and the exceptional unease in the financial markets will wane, in the near future. In the wake of the subprime shock, however, the international financial markets are still very sensitive to any negative news or news adding to the uncertainty.

As regards the risks to economic developments, significant factors include the impact of the financial market shocks on banks' lending capacity and credit criteria as well as on the confidence sentiment in business and among households. The price development of assets, such as shares and houses, is important for households' confidence.[5] In addition, global imbalance in savings and investments, and an uncontrolled unwinding of the situation, still constitute threats to the world economy worth mentioning.

External threats related to protracted financial market disruptions and risks to global economic growth.

Risks in the Nordic financial sector are clearly heightened in the Baltic countries, where business expansion has been strong. The concern is a rapid turn in the economic cycle in Estonia, Latvia and Lithuania, which have experienced rapid growth in recent years. In these countries the increasing indebtedness of companies and households has increased the vulnerability of the financial system to economic shocks.

The situation of the international corporate sector continues to look fairly solid, although the low level of interest rates and easy availability of credit in recent years have added to the increasing indebtedness in the sector. Small companies in particular and companies with low credit ratings benefited from the laxity of the credit markets. Tightening of the availability of finance, if protracted, may lead to an increase in credit losses.

The impacts of market disruptions on emerging economies have so far remained minor. As growth in western countries has waned, investments have been channelled to the fast growing Asia. The very strong inflow of growth-seeking investment funds into these countries may serve to promote the next situation of overreaction in the markets.

5 Risks to economic developments are discussed extensively in Bank of Finland Bulletin 3/2007.

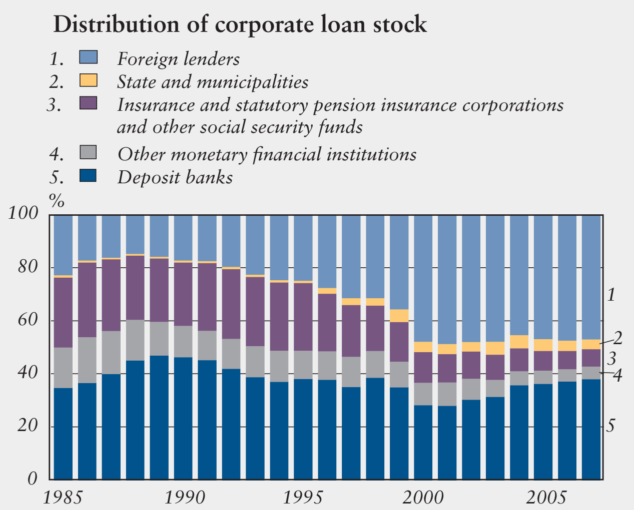
Corporate sector

The exceptionally strong growth of the global economy has supported the operations of Finnish export companies. The corporate operating environment has been favourable, and profitability has been good in historical perspective. Demand for the products of export companies has been solid and, for instance, the capacity of ICT industry has been fully utilised. Due to the rapid increase in raw material prices and labour costs, the productivity of companies' domestic production has not improved significantly in a few years.[6] However, the profitability of publicly listed international Finnish companies has been solid. According to the interim reports published during the autumn, the profitability of most Finnish listed companies has improved further. On the other hand, variation across industries is considerable.

The clearest industry-specific problems at the moment are found in forestry. The proportion of exports in production is about 90%, and there continues to be global overcapacity despite the discontinuation of numerous production plants. At the same time, the price of round wood has increased, and the situation is particularly intimidating for import raw material, if Russia proceeds with its intended export tariff increases for round wood.[7]

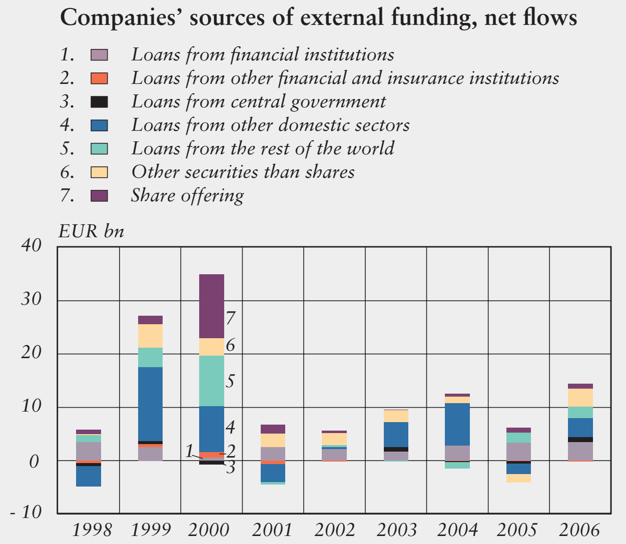
The prospects of forestry companies are also undermined by the increased uncertainty caused by the financial market turbulence, threat of continued depreciation of the dollar and the recent rise in financing costs. In 2009–2011, a considerable amount of Finnish companies' debts raised in the international financial markets will mature. Due to reduced risk ratings, the companies are

Chart 5.



Last observation 2007 Q2
Sources: Statistics Finland and Bank of Finland.

Chart 6.



Sources: Bank of Finland and Helsinki Exchanges.

[6] Bank of Finland Bulletin 3/2007, Box 3.

[7] Bank of Finland Bulletin 3/2007, Risk Assessment.

threatened by a clear increase in financing costs as they refinance their debts at the turn of the decade.

According to the bank lending survey by the European Central Bank,[8] credit criteria are tightening. The unease in the financial markets that began in August has likely made financiers more conservative than before. According to the financing survey published by the Confederation of Finnish Industries, the Ministry of Trade and Industry and the Bank of Finland in November 2007, over the year it has become more difficult for Finnish small enterprises to obtain external finance. In contrast, obtaining finance had not become more difficult for large and medium-sized companies. The tightening of credit criteria by financiers is a welcome measure aimed to contain the increase of payment defaults and credit losses in the future.

The increase of interest rates has not yet had a large impact on the obtaining of debt finance by companies. The corporate loan stock at the end of June 2007 grew a good 9% year on year. Annual growth in the amount of loans granted from abroad to Finland exceeded 12%, while the growth of loans from domestic sources at the same time amounted to slightly less than 7%. According to the statistics of the loan stock of the entire corporate sector, foreign debt financing already amounted to almost half in June (Chart 5).

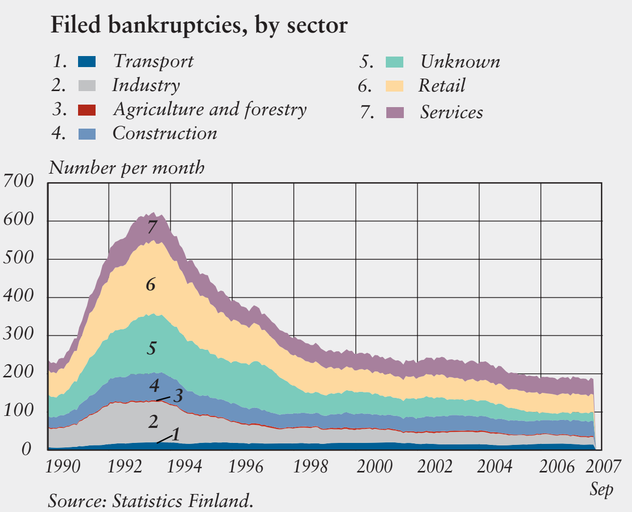
The annual growth of banks' corporate loans has accelerated for the whole year, and in September 2007, growth already amounted to over 12%. Growth of corporate borrowing is likely related to preparation for more limited availability of debt finance directly from the markets. Bank finance consisted primarily of short-term loans of less than a year. The stock of loans drawn by companies from banks grew in September at the fastest rate in the 21st century.

Corporate borrowing has accelerated despite rising interest rates.

The narrowing of margins on small companies' loans has come to a halt, and margins have partly begun to increase slightly. Likewise, the ancillary expenses on small companies' new loans seem to be rising slightly. Financing has been obtained or is intended to be obtained primarily to finance investments and operating capital purposes. Larger and partly also medium-sized companies seem to be using finance also for restructuring (Chart 6).

The number of bankruptcies filed by Finnish companies has already been decreasing for many years and continued to decrease further in 2007 (Chart 7).

Chart 7.



Source: Statistics Finland.

8 ECB (October 2007) Bank Lending Survey.

Both actual and expected bankruptcies by companies are few in number.

Banks' nonperforming assets have anyway shown a slight increase in quantity, and loan losses in corporate lending have recently started to grow.

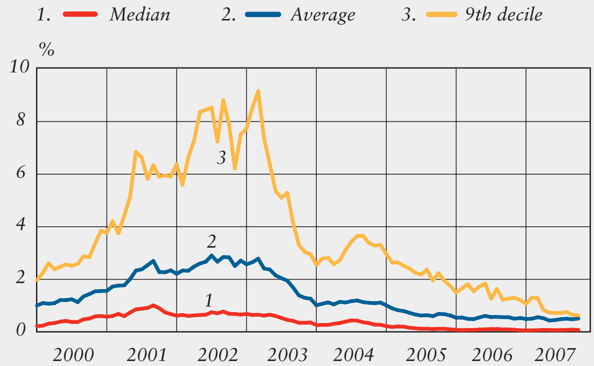
The EDF figures[9] calculated on the basis of equity prices and financial statements information of listed companies have decreased or remained unchanged this year (Chart 8). However, in some industries, such as electronics and metals, there have been signs that the decrease of the probability of bankruptcy has stopped or even began to rise slightly.

Also in light of other market indicators, such as equity markets, markets have kept their confidence in the future of companies (Chart 9).

[9] The EDF figure calculated on the basis of options pricing methods measures the probability that the market value of a company's assets decreases below the nominal value of its debts.

Chart 8.

Expected default frequencies (EDF) of listed Finnish companies



Source: Moody's KMV.

Based on analysts' expectations for this year and the next, equities in the Helsinki Stock Exchange are valued at slightly below their long-term average. The average ratio of listed companies' equity price and expected earnings per share, the P/E ratio, stands below 17. Calculated on the basis of actual earnings, the ratio is at the same level.

The credit ratings of Finnish companies have remained stable with the exception of forestry. The global direction of credit ratings among forestry companies has been downward, and Finnish companies have not been an exception to the global trend.

Growth in the Finnish real estate and construction markets has been fairly intense already for many years. A large number of foreign investors have entered the commercial real estate markets, which has clearly increased the number of transactions. In 2006, the value of transactions totalled EUR 5.5 billion, twice the amount in the previous year. Foreign investors already made more than 50% of the actual transactions. During the early half of this year, the proportion of foreign investors in the transactions has increased further, and the number of transactions is expected to reach the same level as in 2006. The total yield on real estate investments has already risen for a few years, standing at 10% in 2006. The highest yields were achieved in commercial premises, where the total yield reached almost 15% last year. The yield on residential real estate remained at slightly less than 10%.[10]

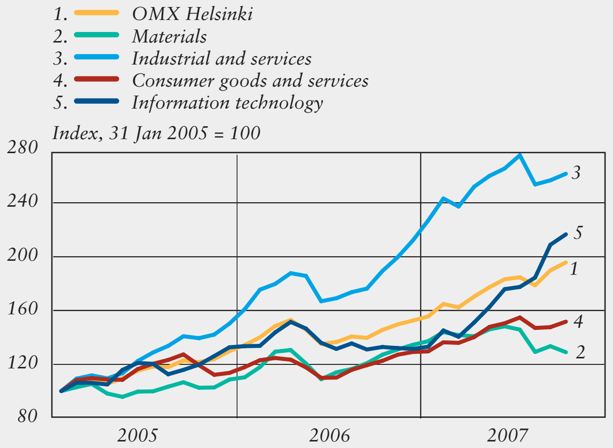
[10] KTI index of the Institute for Real Estate Economics.

The cyclical prospects for construction continue to be fairly good, and construction volume grows by about 5% in 2007, but the growth rate is expected to slow down to 3% next year.[11] The growth of construction concentrates in 2008 on commercial and business premises as well as renovation construction, but the prospects for industrial construction are also fairly favourable. The prospects for housing construction are expected to remain moderately solid, although the sale period of new houses, for example, has been protracted. Housing and construction finance in Finland is mainly variable rate, and increasing interest rates will contain the use of leverage in real estate investments.

All in all, the profit performance of domestic corporate sector has remained fairly good, and companies' financial positions and balance sheets have remained solid. Companies' financial investments have increased and their indebtedness has not changed materially. Based on the forecasted economic developments, companies are not expected to cause significant problems to banks or other financiers. According to the most recent business tendency survey, however, the economic cycle has already peaked and the cycle is expected to take a slightly weakening turn.[12] Neither does the near future of the construction and real estate industry pose a significant threat to the domestically operating financial sectors.

Chart 9.

OMX Helsinki index and its main constituent sectoral indices



Source: OMX Exchange Helsinki Oy.

[11] See www.rakennusteollisuus.fi/RT/Tilastot+ja+julkaisut/ (available in Finnish).

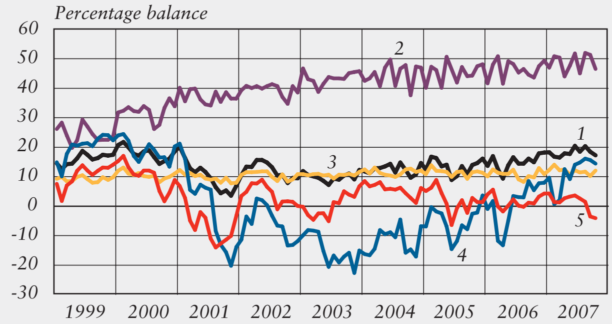
[12] Business tendency survey of the Confederation of Finnish Industries EK (November 2007).

Household sector

Finnish households' confidence in the economy has remained solid in 2007. However, components of the confidence indicator give a bipolar picture of consumers' expectations (Chart 10).[13]

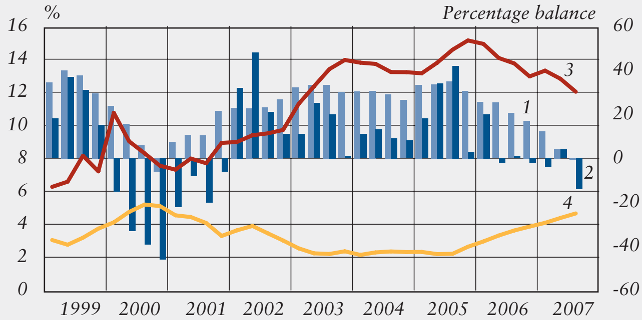
[13] Statistics Finland's consumer survey (October 2007).

Chart 10.



* Average of balances of the four components
Source: Statistics Finland.

Chart 11.



The percentage balance has been calculated on a weighted basis by deducting the percentage share of negative responses from the percentage share of positive responses.

Sources: Bank of Finland, Statistics Finland and Federation of Finnish Financial Services.

Expectations for a year ahead of the consumers' own financial position and savings opportunities in particular are very bright and more optimistic than a year ago. Confidence has been supported by increased expectations of a decrease in unemployment. In contrast, views of Finnish economic developments have deteriorated on the second half of 2007.

Growth of the households' loan stock has slowed down from the trend in 2003–2006 (Chart 11). However, the growth rate continues to be very high. In September, the year-on-year change in the loan stock was 12%. The stock of housing loans grew by 13% and the stock of consumer credit and other loans combined by almost 10%. Consumers' assessments of the worthiness of borrowing have deteriorated apace with the rise in the interest rates on new loans. According to a survey made at the end of September,[14] more and more bank managers are expecting households to show weakening interest in credit within the year.

The average debt ratio for households stood at a record-high 98% in 2006 (Chart 12). In 2007–2009, growth of the loan stock is expected to decelerate gradually in contrast with a continuing favourable income development. The debt ratio is still expected to rise, but slower than in recent years.

The rise of Euribor rates that began in autumn 2005 has increased households' interest expenses (Chart 12) and increased the proportion of loans

[14] The bank barometer of the Federation of Finnish Financial Services (3/2007).

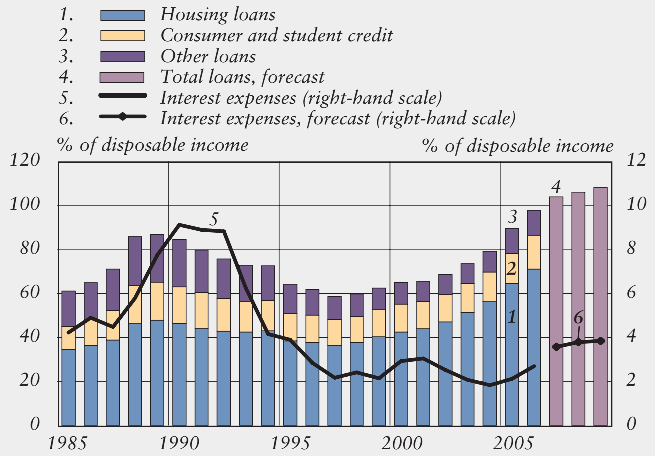
linked to banks' own prime rates among new housing loans (Chart 13). Due to the growth of the debt burden and higher interest rates on loans than before, interest expenses are expected to increase relative to households' disposable income in 2007–2009. However, the interest burden will remain considerably smaller than at the beginning of the 1990s.

In recent years, rapid growth of indebtedness by households and of housing loans in particular, has been common to many countries. Relative to the size of the economy, the indebtedness of Finnish households is still moderate in comparison with eg other Nordic countries, the euro-area average, the UK and the US (Chart 14). Variation across countries in indebtedness partly reflects structural differences between financial systems, which makes international comparisons more difficult.

The risks related to households' indebtedness may be divided into two categories based on whether they primarily affect the payment capacity of the borrower or the value of the collateral.[15] The Finnish Financial Supervision Authority has observed that bank lending appears to be concerned too often on collateral instead of the customer's payment capacity.[16] A loan should always be fitted so that there is a sufficient risk buffer for an increase in interest rates and other unexpected additional expenses.

Chart 12.

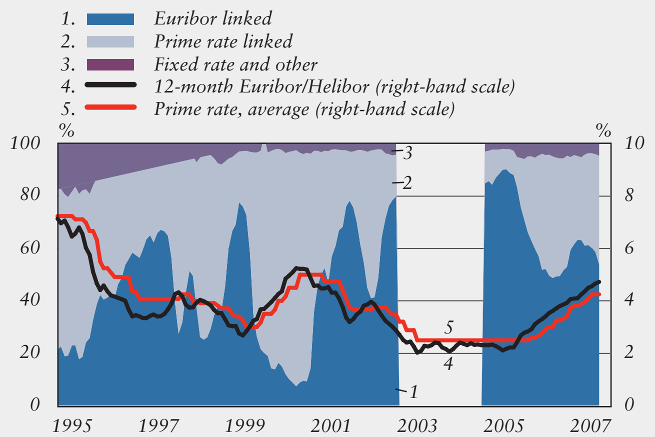
Household indebtedness and interest expenses in Finland (forecast)



Sources: Statistics Finland and Bank of Finland

Chart 13.

12-month market rate, average prime rate and interest rate linkages of new housing loans in Finland



Until end of 2002, new loans drawn and as of beginning of 2005 new contracts. Data was not collected in 2003 and 2004.
Source: Bank of Finland.

In Finland, over 90% of household loans are variable-rate loans, so a majority of the borrowers carry themselves the risk of an increase in interest rates. Depending on the amorti-

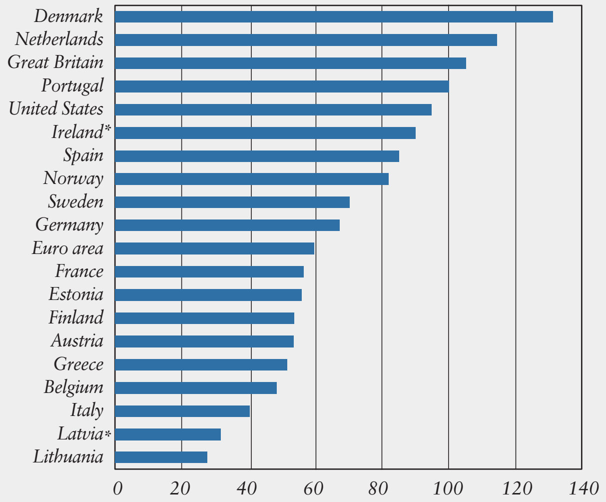
15 See also article "Mortgage risks and risk protection" in the FSA Newsline 5/2007 online publication.

16 Article "Mortgage holders exposed to mounting risks" in the FSA Newsline 2/2007 online publication.

Chart 14.

Household debt in certain countries, 2006

% of GDP

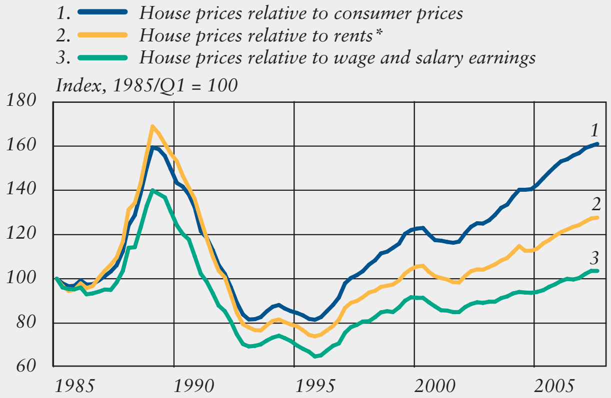


* Data from 2005

Sources: Eurostat and European Central Bank.

Chart 15.

Relative house prices in Finland



* Sub-item 'dwelling rents' in the consumer price index

Sources: Statistics Finland and Bank of Finland.

sation method, an increase in interest rates affects either the monthly debt-servicing expenses or the repayment period of the loan. Among new housing loans drawn within the past two years, every other had repayment periods of at least 20 years, while the corresponding proportion in 1998 was only 2%.[17] The extension of loan periods has enabled the growth of the average housing loan without making the debt-servicing burden unbearable in prevailing financial conditions. At the same time, the interest rate sensitivity of borrowers has increased and the slack related to extension of repayment periods has decreased.

The level of interest rates and the cyclical situation of the economy also have an impact on house prices and therefore on the wealth of mortgage holders and the value of collateral. In comparison to countries with similar income levels, the average net wealth of Finnish households is weak, and a significant share of gross wealth is tied to the value of housing.[18] In international comparison, the risks of Finnish households are therefore linked more to the developments of the housing market and less to the development of the financial markets.

The rise of house prices has slowed down from 2006. In the third quarter of 2007, prices rose on average 0.7% from the previous quarter and 5.9% from July–September 2006. The growth rate is expected to slow down further from about 6% this year to the level of 2–3% in 2008–2009.[19]

Relative to consumer prices, house prices have slightly exceeded the peak in 1989 (Chart 15). However, growth

[17] Survey on saving and use of credit of the Federation of Finnish Financial Services (May 2007).

[18] More on the subject in the article "Household wealth in Finland" by Risto Herrala. Bank of Finland Bulletin 3/2007.

[19] Bank of Finland Bulletin 3/2007.

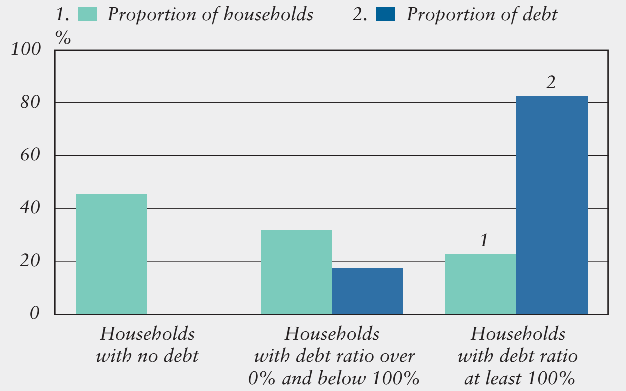
of this ratio has been significantly slower than in the second half of the 1980s. Relative to wage earners' income level and rents, house prices are still more affordable than at the end of the 1980s. In 2008–2009, the house price level is expected to remain unchanged in relation to consumer prices and to decrease somewhat relative to income level.

The number of payment defaults by private individuals increased in January–June 23% from the first half of 2006.[20] The number of payment defaults related to so-called instant loans increased,[21] but their proportion of all new defaults has so far been small. During the rest of the year, the number of payment defaults is expected to increase at a similar rate to the beginning of the year. Despite the increase in new payment defaults, the number of persons with payment defaults at the end of June was only 0.9% higher than a year earlier. The number is considerably lower than in 1998 for instance, when the credit demand suppressed during the recession years began to recover.

In Finland, household debt is concentrated heavily on a fairly limited group of mortgage holders. About every third household has housing loan, and an increasing number of mortgage holders also has other debt.[22] Overall, a good half of households have some debt. However, 80% of the loan stock is concentrated on that fifth of households whose debt ratio is at least 100% (Chart 16).

Chart 16.

Distribution of households and debts in terms of debt ratio* in Finland



** Debt, % annual disposable income*
Sources: Statistics Finland's service data on income distribution from 2005 and Bank of Finland's calculations.

A fifth of households have four fifths of total debts.

In addition to debt, also income and wealth are distributed very unevenly across households. Concerns related to the indebtedness trend are alleviated by the fact that a majority of household debt belongs to households in the highest income brackets. Highest-income borrowers also have more assets than other borrowers.[23] About two out of three households in the two highest income quintiles have debt, but very few feel they are over-indebted. In the lowest income brackets, there are considerably fewer indebted households, and the median debt amount is lower both absolutely and

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20 Announcement by Suomen Asiakastieto 5 July 2007.

21 Instant loans refer to collateral-free consumer loans of a few hundred euro up to 3 months, which may be drawn via a mobile phone or through the Internet. The Ministry of Justice established a work group in 2007 to prepare amendments to legislation concerning instant loans.

22 Income distribution statistics compiled by Statistics Finland from 2005.

23 The calculations are based on the data of the household wealth survey of 2004 by Statistics Finland.

Payment capacity and risk-bearing capabilities of indebted households have mainly remained solid.

relative to income, but a higher proportion of borrowers are experiencing debt-servicing and other payment difficulties. The highest risks concern borrowers whose debt and debt-servicing costs are high relative to their debt-servicing capacity.

In light of the forecasted interest rate, unemployment and house price developments, household indebtedness does not appear alarming. Based on calculations made at the Bank of Finland,[24] borrowers would be able to bear even considerably weaker economic developments than expected without a significant increase in the number of households with financial difficulties. Emergence of extensive debt problems would require exceptional shocks in economic development, such as the recession in the early 1990s.

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24 Herrala – Kauko (2007) Household loan loss risk in Finland. Bank of Finland Discussion Papers 5/2007.

Banking and insurance sector

In the Nordic countries as well as in Europe at large, development within the banking sector was very favourable until the first half of 2007. Available data for the third quarter indicate that the performance of large Nordic financial groups has not declined significantly as a result of the turbulence on financial markets. Developments in the Finnish banking and insurance sector have been favourable overall. The risk outlook highlights the importance of the liquidity risk, as financial groups in Finland, as well as elsewhere, are more dependent on international financial markets for funding. The indicators describing the status of financial markets paint a favourable picture of the Finnish banking sector. Equity risks have been increasing in importance in the investments of Finnish insurance companies for a long time already, although interest rate risk continues to play the most significant role.

In the Nordic countries and elsewhere in Europe the performance of the banking sector was sound throughout 2006 and in the first half of 2007. This strong performance was attributable to a favourable operating environment in financial markets as well as in the economy overall. Financial results, business volumes and key figures improved. No negative impairment entries on loans, of significance to financial results, were recorded.

The financial market turbulence that emerged in the third quarter of 2007 is negatively reflected in the income development of many European banks, especially in the income from securities trading and in fee income. Banks' capital adequacy is sound and buffers against potential losses have been built up over the past few years.[1]

The largest write-downs resulting from the turmoil so far have been recorded by a number of large US investment banks. Results for the third quarter declined markedly but the banks are expected to endure the situation without their capital adequacy being jeopardised. The total amount of the loss, however, still remains an open issue.

In the Nordic banking sector, direct risks relating to the US subprime mortgages are small.

The risks of international financial markets will spill over to the banks in the Nordic countries and Baltic States through various channels of contagion. The direct risks stemming from US subprime mortgage lending are only moderately present in the Nordic banking sector. The tight liquidity conditions on financial markets, as well as the re-pricing of risks, have, however, business consequences, despite the absence of major counterparty risks and exposures.

At the Nordic level, available data for the third quarter of 2007 indicate that the performance capacity of large financial groups has remained unchanged. Quarterly results[2] before taxes have not dropped significantly

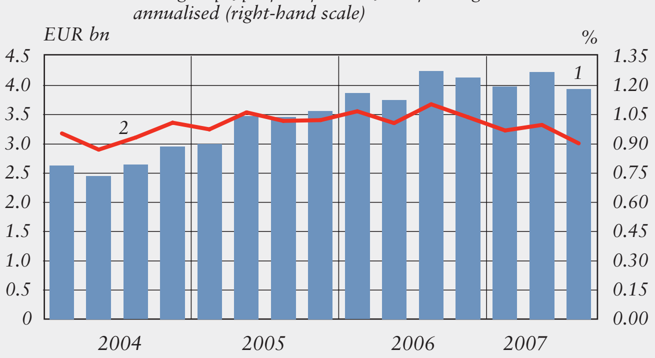
1 ECB, EU Banking Sector Stability Report, November 2007.

2 The survey covers the following groups: Danske Bank, Nordea, SEB, Handelsbanken, DnBNOR, Swedbank, OP-Pohjola Group, Kaupthing Bank and Jyske Bank. These groups include Nordea Bank Finland, Sampo Bank and Hansabank Group. The data has been derived from interim reports and financial statements. The figures have been converted into euro at the exchange rates of 30 September 2007.

Chart 17.

Large Nordic financial groups: quarterly profits before tax

1. Nine groups, quarterly profits before tax (left-hand scale)
2. Nine groups, profit before tax, % of average total assets annualised (right-hand scale)

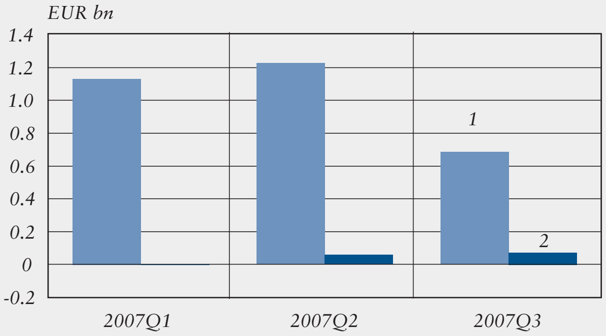


* Currencies converted into euro at the exchange rates of 30 September 2007.
Sources: Group interim reports and financial statements and Bank of Finland.

Chart 18.

Large Nordic financial groups: net income from securities trading quarterly, and credit losses

1. Net income from securities trading
2. Credit losses



Source: 2007 interim reports.

(Chart 17). Net interest income and fee income have developed positively in response to steady business growth. The improvement in net interest income has also been fuelled by a higher level of interest rates.

The large financial groups have recorded better results in 2007 than in the corresponding period a year before. However, in the past year, results improvement has been slower than business growth (as measured by total assets).

The problems of international financial markets have also been reflected in the income development of Nordic financial groups: income from trading and investment in securities measured at fair value declined considerably in the third quarter (Chart 18). Furthermore, in aggregate, the financial groups have recognised higher impairments on lending assets than before, although impairments remain very small in volume. The negative profit impact exerted by lower net trading income and impairments has, however, been offset by an increase in other income in the third quarter.

Capital adequacy ratios for Nordic financial groups have remained mostly unchanged, pointing to sound and strong performance and stable development of risk-weighted assets and regulatory capital, consistent with the groups' aim. There is relatively little variation in capital adequacy ratios over time, although a few financial groups report somewhat weaker capital adequacy than a year ago (Chart 19).

Depending slightly on the country and the transitory provisions applied, financial groups have introduced the Basel II framework for calculation of capital adequacy. It is still too early to assess the resulting total effects on consolidated own funds and risk-weighted assets, but the buffers against potential losses have, at any rate, been strengthened during the past few years.

The share price development of major domestic and foreign financial groups operating in Finland has been largely favourable in recent months, in comparison with other European banks (Chart 20). This reflects the soundness of the Nordic financial sector also in a more volatile operating environment. The Icelandic financial groups, which have obtained finance for their ambitious expansion strategy mainly from the market, are most susceptible to a continuation and intensification of international financial market turbulence.

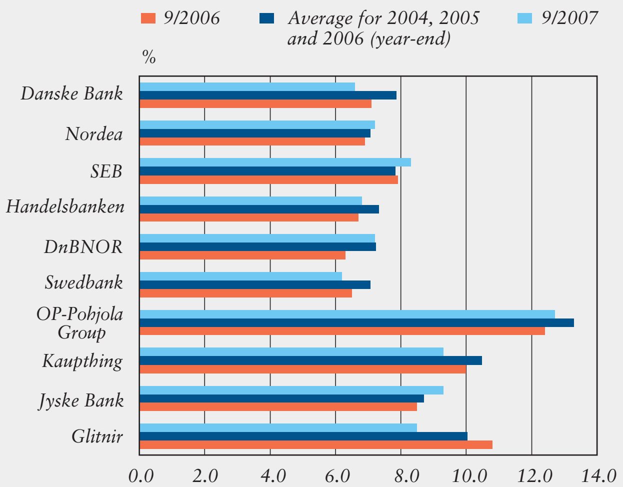
Condition of the Finnish banking sector

Pronounced structural change continued in the Finnish financial sector in 2007. The most significant change was the transfer of the Sampo Bank group from the Sampo group to become a subsidiary of Danske Bank as of the beginning of February.[3] The changes will continue next year with the reorganisation of the subsidiary as a branch by the summer of 2008.[4]

Non-recurring income and expenses related to the structural changes impair the comparability of banks' financial results over the years. Non-recurring items do not, however, change the overall picture of highly favourable and stable performance in the Finnish banking sector. Total operating profits for banking have been steadily increasing for several years

Chart 19.

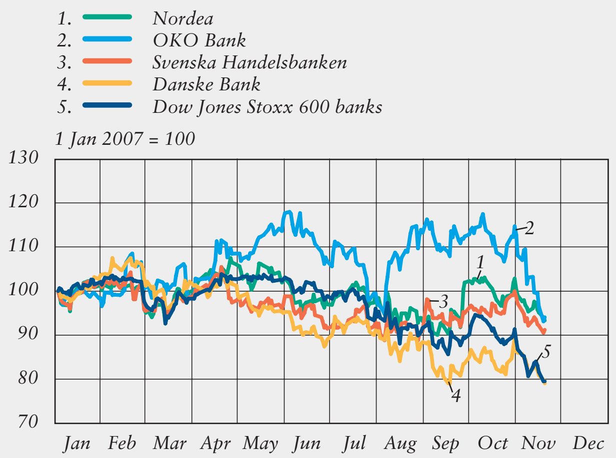
Capital adequacy ratios for 10 Nordic financial groups (Tier 1 capital adequacy)



Sources: Group interim reports and financial statements.

Chart 20.

Banks' share prices, 2007



Source: Bloomberg.

[3] At the same time, the Sampo group was reorganised as an insurance holding company, from having been a financial and insurance conglomerate. In contrast, the Aktia Savings Bank group became a financial and insurance conglomerate in January when it acquired a life assurance company as its subsidiary. The savings bank group also entered the life assurance business with the start of operations of a company jointly owned by the savings banks and Local Insurance Mutual Company group. In October, two new actors, S-Bank Ltd and Glitnir Bank, entered the field.

[4] Press release of Sampo Bank, 27 September 2007.

Financial market turbulence has had positive and negative implications on Finnish banks' performance.

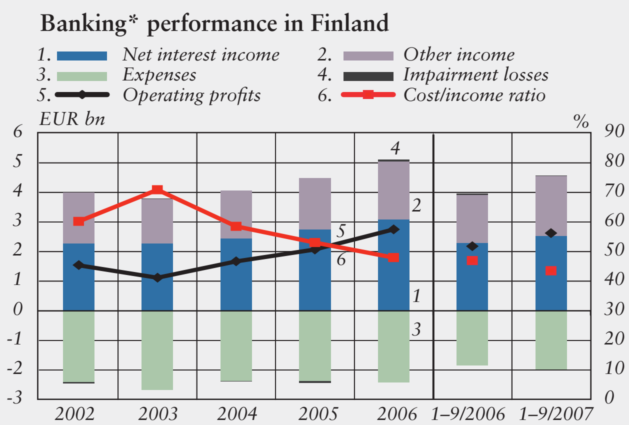
already, in step with improvements in the cost efficiency of banks (Chart 21).

The favourable development of the domestic operating environment continued to foster the growth and performance capacity of banking operations in 2007. The direct impact of the disruptions spreading from the US mortgage market to the Finnish banking sector has remained moderate. According to a survey conducted by the Finnish Financial Supervision Authority in August 2007, Finnish banks' exposures to US subprime risk instruments are very low.[5]

The unrest of international financial markets had both positive and negative effects on banks' results in the third quarter. The rise in interest rates contributed to the growth of net interest income, but in particular the rise in the 3-month Euribor rate also resulted in higher funding expenses for the banks. Other income suffered from the financial market turmoil and higher uncertainty compared with the early part of 2007.

[5] On-line publication FSA Newsline 4/2007.

Chart 21.



** Domestic deposit banks (parent companies incl. Finnish and foreign branches) as well as subsidiaries and branches of foreign credit institutions with deposit bank activities in Finland.*
Sources: Financial Supervision Authority and Bank of Finland.

Total operating profits for domestic banking[6] amounted to EUR 2.6 billion over the period January–September 2007. The improvement in performance of around 20% from the year before was above all related to a strong increase in income. Without major non-recurring sales profits[7] in 2006–2007, growth in operating profits stood at around 10% in both January–September and the third quarter, as compared with the corresponding periods in 2006.

The increase in net interest income was fostered by the spill-over of the rise in Euribor rates to lending rates and the sustained strong demand for credit despite higher interest rates. The 0.9 percentage point increase in the average rate on the lending stock from September 2006 was almost as high as the concurrent increase in the 12 month Euribor rate.[8] The stock of loans to the public grew by 12.1%. The volume of deposits also expanded rapidly (7.5%); with improvements in deposit margins having a positive effect on the accrual of net interest income, despite higher deposit rates. In September, banks' total margins (average rate on the lending stock – average rate on the deposit

[6] In this context, domestic banking refers to domestic deposit banks (parent companies excl. subsidiaries but incl. Finnish and foreign branches), as well as subsidiaries and branches of foreign credit institutions with deposit bank activities in Finland.

[7] The most significant non-recurring item was the profit of EUR 460.6 million earned by the Sampo Bank group in the first quarter of 2007 from the sales of the Baltic and Finnish subsidiaries to the parent company Danske Bank. The comparison figure for 2006 includes the profit of EUR 199 million earned by Nordea Bank Finland from the sales of a Russian affiliate.

[8] Financial Markets – Statistical Review 11/2007, published by the Bank of Finland.

stock) stood at close to 0.1 percentage point higher than a year before.

Net fee income grew both in January–September and in the third quarter, as compared with the corresponding periods in 2006. However, the third quarter was clearly weaker than the two first quarters of the present year. Net interest income and net fee income together account for around three-quarters of banks' total income, so their favourable development provided a solid basis for the strong performance of banks.

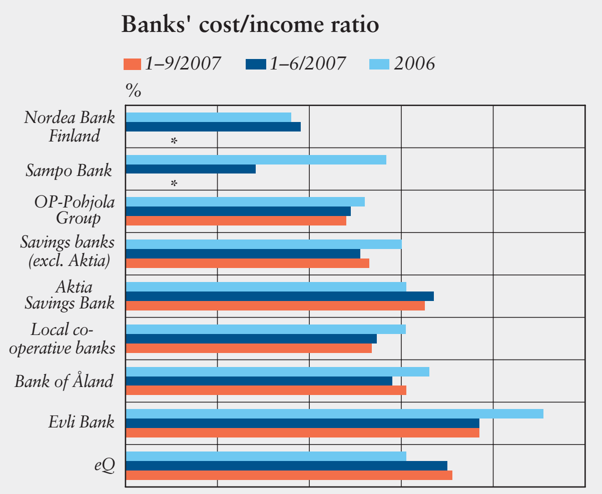
Profits from items measured at fair value increased from January–September 2006, as well as the third quarter. These items, as other operating profits, are, however, of a non-recurring nature and subject to considerable fluctuation, which impairs comparison over time.

Higher staff expenses were mainly related to an increase in salaries and profit-based bonuses but, in many banks, also to an increase in staff size. Other expenses grew in step with business expansion and structural changes. As a rule, total expenses increased more slowly than total income, resulting in an improvement in banks' cost efficiency compared with 2006. Developments in the present year, however, show variations by banks (Chart 22).

Impairment losses on loans and other commitments, as well as on other financial assets, had a positive impact on the results for January–September. Loan loss recoveries exceeded new loan loss provisions in the previous year, as well.

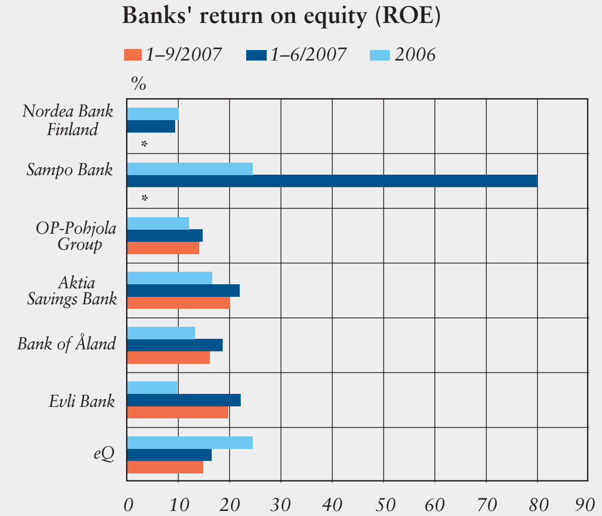
Banks' profitability, as measured by return on equity (ROE %), has generally improved from 2006 (Chart 23).[9] In the third quarter, return rates declined

Chart 22.



Ratios are reported by the groups and mainly refer to banking.
** Nordea Bank Finland and Sampo Bank do not release data for January–September.*
Source: Banks' interim reports.

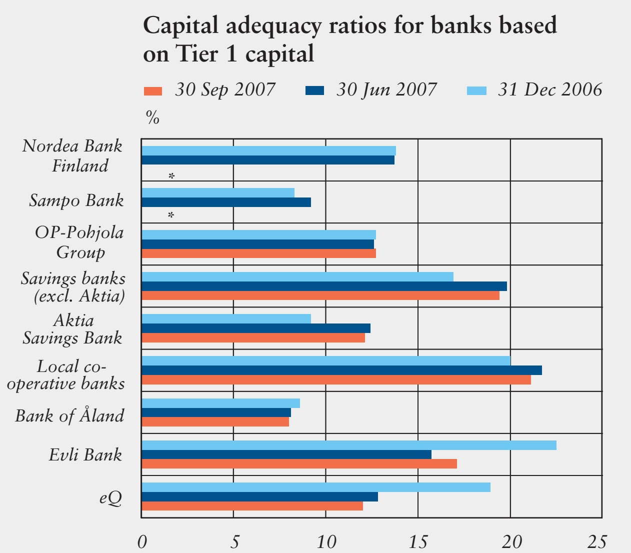
Chart 23.



ROE rates reported by the banks are not fully comparable.
** Nordea Bank Finland and Sampo Bank do not release data for January–September.*
Source: Banks' interim reports.

[9] The exceptionally high return on equity rate for Sampo Bank in the first half of 2007 is attributable to non-recurring income related to reorganisation within the Danske Bank group.

Chart 24.



*Nordea Bank Finland and Sampo Bank do not release data for January–September.
Source: Banks' interim reports.

Banks' capital adequacy and the quality of the stock of loans are good.

compared with the levels witnessed in January–June.

The capital adequacy of banks has remained sound on average (Chart 24), apparently unaffected by the introduction of the Basel II framework for capital adequacy calculation, at least so far. The OP-Pohjola Group and Sampo Bank avail themselves of the opportunity to apply the Basel I approach under the transitory provisions until the end of 2007.

The quality of the lending stock has remained good overall.[10] Non-performing assets, ie loans not serviced for more than 90 days, accounted for 0.29% of the stock of lending and guarantees at the end of June 2007 (against 0.31% a year before). The corresponding proportion of past due items, ie loans not serviced for 30–90 days, was 0.44% (0.47%). Gross impairment losses on loans represented EUR 98.0 million in January–June, accounting for 0.07% (0.05%) of the stock of lending and guarantees.

The strong performance of the insurance business has contributed to the good results of Finnish financial and insurance conglomerates this year.

Condition of the insurance sector

Strong economic growth and favourable financial market developments bolstered the profitability and solvency of the domestic insurance sector in 2006 (Chart 25). This favourable trend has continued in 2007. The sector posted good results on average, with investment returns boosting the results of life, non-life and pension companies alike. Insurance technical results also remained good overall.

Aggregate premiums written by Finnish insurance companies grew by 5% in 2006, but developments in the year were uneven. The increase in premiums written by life assurance companies was notably slower than in the previous year, which is explained by the exceptional increase in premiums written in 2005 following portfolio transfers from company pension funds. In 2006, the volume of premiums written by life assurance companies was around 4% lower than in the year before. The sluggish development of premiums written has continued in 2007. In January–September, accrued premiums written declined around 8% from the year before. Premiums written on guaranteed-return life policies have

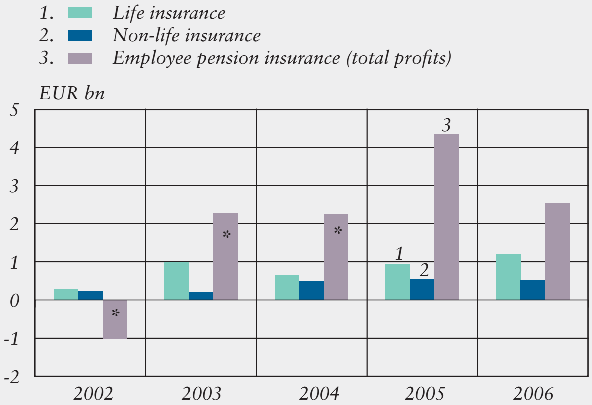
[10] On-line publication FSA Newsline 4/2007.

showed particularly weak performance, whereas personal pension policies have increased by nearly 9% over the corresponding period. The expansion of the pension insurance market has been based on a strong increase in premiums written on unit-linked policies, which, to some extent, relaxes the solvency requirements of life insurers. The risks involved in personal life and pension policies have, indeed, increasingly been shifted to policy holders.

In 2006, premiums written by non-life insurers grew by approximately 4%, with the rate of growth accelerating slightly in 2007. The sustained strong economic growth contributes to the accrual of premiums for non-life policies.

Chart 25.

Insurance companies' operating profits in Finland



**Excl. Etera Mutual Pension Insurance Company.*
Sources: Federation of Finnish Insurance Companies and summarised financial statements of employee pension companies.

Table 1.

Solvency of insurance companies

	06/2007	06/2006	12/2006	12/2005
Life insurers				
Capital and reserves, EUR m	2,177	2,100	2,088	2,135
Solvency margin, EUR m	5,053	4,159	4,727	4,572
Solvency capital, EUR m	5,222	4,304	4,893	4,715
Solvency margin, % of minimum amount	451.6	383.0	423.2	422.2
Solvency capital, % of technical provisions	20.4	17.3	19.2	19.1
Employee pension insurers				
Capital and reserves, EUR m	300	281	295	270
Solvency margin, EUR m	19,188	13,887	17,107	14,650
Solvency margin, % of minimum amount	332.2	316.1	338.1	371.4
Solvency margin, % of technical provisions	33.8	26.5	31.3	29.1
Non-life insurers				
Capital and reserves, EUR m	1,506	1,495	1,465	1,487
Solvency margin, EUR m	2,233	2,069	2,064	2,181
Solvency margin, EUR m	4,058	3,775	3,814	3,792
Solvency margin, % of minimum amounts	372.8	362.5	353.9	388.7
Solvency capital, % of technical provisions	54.0	52.6	56.2	59.1
Solvency capital, % of premiums earned over 12 months	140.0	133.4	132.0	136.3

Source: Insurance Supervisory Authority.

The capital adequacy of insurance companies has been sound.

In the insurance sector, with slightly over 8%, companies operating statutory employee pension insurance plans recorded the strongest growth in premiums written last year. The strong growth has been sustained this year, too. Improvements in employment and growth of the wage bill are reflected in higher premiums written by pension companies.

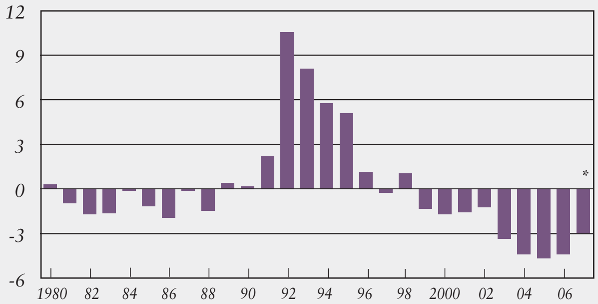
The favourable performance of the insurance companies, together with fairly high investment returns, has contributed to the sound solvency of the sector in 2006 and in the first half of 2007, as well (Table 1). Average solvency ratios for Finnish insurance companies are better than for European insurers on average.

The solvency ratios of pension companies, ie the ratio of the solvency margin to technical provisions, improved in 2006. The aggregate solvency margin for pension companies has, however, been somewhat reduced because of the higher level of investment risk. Pension companies have increased their share holdings and, in addition, share price rises have increased the weight of share holdings in investment portfolios. Besides the higher weight of share holdings, the surge in hedge fund investments has also increased the risks of some pension companies. Hedge fund investments already account for 7% of the total investments of pension companies. Growth in high-risk assets is due to the revised regulations governing the investments of pension companies taking effect at the beginning of 2007. The increase in share holdings and hedge fund investments has been motivated by the pursuit of better returns. An improvement in returns would dampen future pressures to raise pension contribution rates.

Of Finnish insurance companies, only pension companies have stepped up investments in hedge funds and, also among them, investment policies vary strongly. Life and non-life insurers have only invested moderately in hedge funds and, accordingly, their exposure to hedge fund risks remains low.

Chart 26.

Stress index for the Finnish banking sector 1980–2007/Q3



* *forecast 2007/Q3*

Sources: OMX Exchange Helsinki Oy, banks, Statistics Finland and the Bank of Finland.

Risk outlook

Although it did not improve on the previous year, the stress index[11] for the Finnish banking sector was good in 2006 (Chart 26). However, it has deteriorated in 2007. The downturn is due to, for example, a decrease in interbank deposits and a weakening of the ratio of banks' own capital to total assets. Overall, the index still portrays the Finnish banking sector in a positive light.

[11] The calculation method for the stress index has been explained on page 44 in the 2006 issue of the Financial Stability Report.

The share markets' outlook on banks' risk position has turned slightly more negative since spring, which is probably due to the turbulence caused by problems related to subprime mortgages. The index denoting banks' average distance to default, calculated on the basis of banks' share prices and their volatility, fell in August and September (Chart 27). Despite this weakening, the distance to default indicator has been more favourable than in the past on average.

Heightened importance of liquidity risk

Liquidity risks have been subject to extensive debate in recent times. In essence, liquidity has two meanings. As regards the securities markets and other markets, liquidity refers to the keenness of trading, the abundance of buyers and sellers and the possibility of quickly finding parties for the intended transactions. Liquid markets make it easy to buy or sell large amounts of securities without the buyer or seller having to quote a price that deviates from the previous level.

Liquidity can also denote the capacity and ability of a single entity to take care of compulsory payments without difficulty. Liquidity thus necessitates that cash reserves are adequately proportioned to payment obligations or that cash can be easily raised.

These two concepts of liquidity are related, especially as regards banks. Maintenance of liquidity requires access to liquid markets. When liquidity conditions in the share and financial markets are good, it is easy for at least solvent banks to obtain finance by issuing bonds and certificates of deposit or by taking a loan in some other way. Such banks can also quickly sell securities that they own at the current price. According to an index presented by the Bank of England, market liquidity fell strongly after spring 2007,[12] which has heightened banks' liquidity risks.

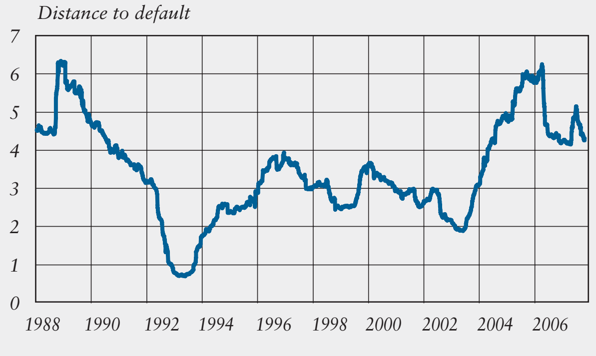
Banks' liquidity risks have increased.

In recent years, large Nordic financial conglomerates have expanded their operations rapidly, which has signified an increasingly greater dependency on other forms of funding than deposits. Growth strategies and other business objectives are ambitious. It is typical for new market areas that the stock of credit expands faster than deposit funding. Dependency on money and capital markets has increased, which can significantly heighten the liquidity risk.

[12] Bank of England Financial Stability Report, Oct 2007, page 8.

Chart 27.

Finnish banks' distance to default indicator 1 Jan 1988–19 Nov 2007



Sources: OMX Exchange Helsinki Oy, banks and the Bank of Finland.

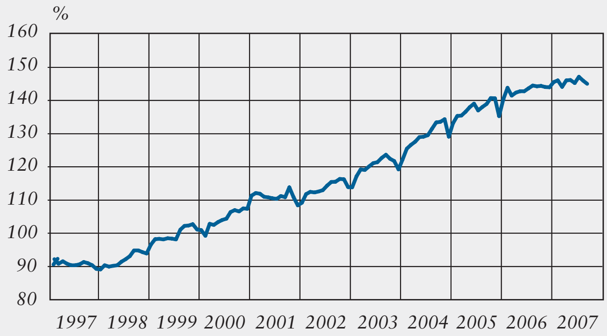
Market turbulence in the third quarter of 2007 does not seem to have hampered acquisition of capital by large Nordic financial conglomerates. Persistence of the turbulence would lead to heightened cost of funding.

The figures calculated from the balance sheets of large Nordic financial conglomerates are highly different from each other, which is a reflection of differences in emphasis in business operations and liquidity position (Table 2). Variations have also been observed in key performance figures in 2007, depending on the company.

Finnish credit institutions' need for market funding has increased in recent years, with lending growth outpacing funding growth ever since the mid-1990s (Chart 28). Deposits are generally a fairly stable source of funding. The Financial Supervision Authority (FIN-FSA) has paid special attention to banks' funding risks and considers they are still fairly moderate and that the lengthening of maturities for funding obtained from the markets is a positive development.[13] Finnish

Chart 28.

Deposit banks' loans to deposits ratio*



** Includes deposit banks' markka-denominated (1997–98) and euro-denominated (1999 onwards) loans to the general public and deposits made by the general public.*
Source: Bank of Finland.

[13] FSA Newsline online publication 2/2007 'Financial risks on the increase'.

Table 2.

10 Nordic financial conglomerates: structure of balance sheet, three key figures

	30 Sep 2007			*31 Dec 2006*		
	Credit to the public relative to deposits by the public	*Deposits by the public, % of total liabilities in the balance sheet*	*Liquidity ratio, %***	*Credit to the public relative to deposits by the public*	*Deposits by the public, % of total liabilities in the balance sheet*	*Liquidity ratio, %***
Danske Bank	*2.13*	*29.5*	*61.8*	*2.36*	*26.6*	*50.9*
Nordea	*1.77*	*36.5*	*117.4*	*1.69*	*38.1*	*110.2*
SEB	*1.45*	*34.0*	*71.9*	*1.48*	*34.4*	*52.1*
Handelsbanken	*2.51*	*26.1*	*53.4*	*2.06*	*31.0*	*55.3*
DnBNOR	*1.71*	*39.2*	*68.3*	*1.74*	*37.8*	*66.4*
Swedbank	*2.46*	*29.4*	*136.8*	*2.37*	*30.9*	*123.3*
OP-Pohjola Group	*1.44*	*50.8*	*218.6*	*1.43*	*50.9*	*127.3*
Jyske Bank	*1.26*	*50.8*	*175.6*	*1.41*	*50.5*	*95.2*
Kaupthing	*2.34*	*28.6*	*347.6*	*3.38*	*20.2*	*536.2*
Glitnir	*3.09*	*25.8*	*76.6*	*4.02*	*20.9*	*26.0*
*Average**	*1.98*	*33.1*	*98.2*	*2.02*	*33.1*	*90.8*

** weighted by the balance sheet of 30 Sept 2007*
*** liquidity ratio: balance-sheet cash receivables and receivables from credit institutions and central banks relative to debt to credit institutions and central banks*
Source: Interim reports published in October–November 2007.

banks' good credit ratings alleviate the liquidity risk (Table 3).

If the availability of market-based funding is not sufficient due to disturbances, banks are likely to increase the use of central bank financing.[14] Other reasons can of course be a motivator for a rise in central bank financing, but its rapid and strong increase can be a sign of liquidity problems in the banking system.

During the financial market turbulence, the ECB has made a substantial boost in liquidity in the euro area banking system via short-term fine-tuning operations. The ECB has also carried out some additional operations in the three-month maturities.

The counterparties of the Bank of Finland, which is part of the Eurosystem, are Finnish banks and Finnish subsidiaries of foreign banks. These money market counterparties do not seem to have had any major liquidity problems in summer and autumn 2007. In the Bank of Finland balance sheet, lending to credit institutions related to monetary policy operations has, since spring 2007, been continuously lower than usual. In July, this lending fell to zero, which is exceptional.

The subdued use of central bank financing can hardly be explained through lack of collateral. The amount of collateral pledged by counterparties at the Bank of Finland has clearly exceeded their needs. From the beginning of 2007, euro area central banks also accept as collateral many bank loans. Thus, banks can, subject to certain preconditions, make use of claims on their own customers when taking out a loan from the Bank of Finland.[15] This arrangement serves to

[14] See eg The Joint Forum: The management of liquidity risk in financial groups; BIS, May 2006.

[15] See Bank of Finland rules for counterparties and account holders.

Table 3.

Nordic banks' credit ratings (26 November 2007)

	Moody's		*S&P*		*FITCH*	
	Short	*Long-term*	*Short*	*Long-term*	*Short*	*Long-term*
Aktia SP	*P-1*	*A1*	-	-	-	-
OKO	*P-1*	*Aa1*	*A-1+*	*AA-*	*F1+*	*AA-*
Nordea Bank AB (Publ)	*P-1*	*Aa1*	*A-1+*	*AA-*	*F1+*	*AA-*
SEB AB	*P-1*	*Aa2*	*A-1*	*A+*	*F1*	*A+*
Svenska Handelsbanken	*P-1*	*Aa1*	*A-1+*	*AA-*	*F1+*	*AA-*
Swedbank AB	*P-1*	*Aa1*	*A-1*	*A+*	*F1*	*A+*
Danske Bank A/S	*P-1*	*Aa1*	*A-1+*	*AA-*	*F1+*	*AA-*
Sampo Pankki Oyj	*P-1*	*Aa1*	*A-1+*	*AA-*	-	-
Jyske Bank	*P-1*	*Aa2*	*A-1*	*A+*	-	-
DnB NOR Bank	*P-1*	*Aa1*	*A-1*	*A+*	*F1*	*A+*
Kaupthing Bank hf	*P-1*	*Aa3*	-	-	*F1*	*A*
Glitnir	*P-1*	*Aa3*	*A-2*	*A-*	*F1*	*A*
Landsbanki Islands hf	*P-1*	*Aa3*	-	-	*F1*	*A*

Sources: Credit rating agencies.

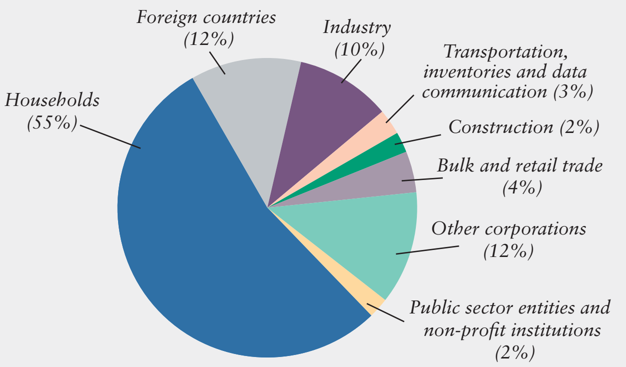
Accelerated growth in bank deposits.

alleviate the liquidity risk, because the size of potential collateral has increased. Previously these balance sheet items were often rather useless for liquidity. The use of bank certificates of deposit as collateral has now been restricted.

Paradoxically, in some respects the recent market turbulence may even have boosted banks' liquidity position. Growth in bank deposits accelerated in late summer, which is probably partly due to the unwillingness of households to keep their savings in investments that are considered more uncertain than before. According to the banking survey 3/2007 of the Federation of Finnish Financial Services, at the end of September 79% of bank managers expected the popularity of deposits among households to increase, owing to the rise in interest rates and the turbulence in the financial markets. In March, the proportion of those expecting the popularity of deposits to rise was only 52%, with 55% in May.

Chart 29.

Breakdown by sector and economic activity* of the stock of credit granted by deposit banks 30 June 2007: EUR 144 bn



** Excl. financial institutions and insurance companies*
Source: Financial Supervision Authority.

Credit risks have increased but are still moderate

Loan losses have traditionally been the most significant risk for banks. In recent years, very few impairment losses on loans have been entered in Finland. In fact, an increase from the present low level would be regarded as normalisation of the situation. It is therefore likely that credit risk has increased owing to eg rapidly expanded lending. The amount of loans to households in particular has grown rapidly, with their share accounting for more than half of total lending by banks (Chart 29). In September 2007, the proportion of loans to households was roughly 12% higher than a year earlier. Growth has slowed down somewhat from previous levels, but it is still much faster than growth in households' nominal income, for example. Growth in lending to corporations is accelerating, with the stock of corporate loans in September already being more than 12% higher than a year earlier. On the basis of past experience it can be expected that the risk of loan losses is higher for corporate loans than for loans to households. This is another fact which will add to the probability of credit risk returning to normal after an exceptionally favourable period.

The recent rise in interest rates has probably increased credit risk because the increasingly heavier interest rate burden affects many debtors' solvency. The majority of the loans granted in Finland are tied to variable interest rates. The financial market turbulence has raised Euribor rates calculated on the basis of unsecured interbank loans.

According to contract conditions, this rise will be reflected in the interest rates of customer loans that have been tied to the Euribor, as and when the loans will be re-priced. This is special to Finland; lending on Euribor rates is not very common in all euro area countries.

Other consequences of the turbulence still unclear

Over the course of 2007, credit risks arising from problems stemming from uncertainties in the US housing market have proven to be higher than previously expected. Even complicated structured financial arrangements do not eliminate risks arising from the so-called subprime loans, but only serve to transfer responsibilities to other parties. How exactly risks between market parties are distributed is not known and the size of future credit losses cannot be evaluated precisely. The complicated nature of the arrangements and lack of related financial account, statistical and other data make it difficult to form a comprehensive picture of the situation. According to a survey by the FIN-FSA, Finnish banks do not really have direct risks on these markets.[16] However, the scarcity of direct risks does not necessarily mean that credit losses arising from US mortgage markets could not have an adverse impact on the Finnish banking business, because risks can also be indirect. The problems may affect, for example, interest rates, exchange rates or even the macro economy. The full consequences of the depreciation of the US dollar are not necessarily visible yet. Credit loss risk may also be indirect: even Finnish banks can have substantial receivables from parties whose solvency does not withstand losses arising from the subprime markets, although this seems unlikely. Nevertheless, the likelihood of such indirect risks has been heightened.

Indirect consequences of the financial market turbulence are still unclear.

Market risk and operational risk

According to the FIN-FSA, banks' interest rate risks are well under control. Interest rate risk of the trading book fell substantially in the first half of 2007 because of hedging undertaken, for example, through interest rate swaps and interest rate options. Banks' market risks have been analysed within the confines of a stress test (Box 1). Operational risks are difficult to evaluate, but they may have been heightened by many factors in recent times. The restructurings under way will increase the need to revamp IT and other systems. Furthermore, introduction of the Basel II reform calls for upgrades to many IT systems. Major changes in systems always involve operational risk.

Risks in the insurance business

Finnish insurance companies' investment risks are primarily interest rate risks. However, the relevance of equity risks has been growing for a while, and Finnish insurance companies' exposure to equity risks is currently higher than average in Europe. Equity risks are particularly significant in the life insurance and pension insurance business. Exposure to risks relating to equity and hedge funds

[16] FIN-FSA press release 7 September 2007.

Differences in investment risks by insurance companies.

varies greatly among different types of pension insurance companies. Non-life insurance companies' investment risks are primarily related to fixed-income investments. Of other risks, the consequences of climate change may in the future be a major source of losses for non-life insurance companies, if extreme climatic phenomena causing major catastrophes increase. Finnish insurance companies' capital adequacy is good in European terms, which serves to consolidate stability.

Moreover, insurance companies do not seem to have direct risks in the US mortgage market that suffers from poor creditworthiness. In fact, according to a survey[17] conducted by the Insurance Supervision Authority, exposure of the entire Finnish insurance sector was negative. The survey shows that Finnish insurance companies have invested in the types of hedge funds that have in turn entered into derivatives contracts to transfer a larger share of the risk associated with these loans to other parties than what they had assumed themselves. Insurance companies considered the greatest problems to be poor liquidity in the markets and other possible indirect impact.

[17] Press release of the Insurance Supervisory Authority 4/2003.

Box 1.

Stress test of the Finnish banking sector

The Bank of Finland and the Financial Supervision Authority regularly cooperate in calculating estimates of the impact of macroeconomic disturbances and declines in asset prices on the status and risk-bearing capacity of the banking sector. The impact is analysed using statistical models of the correlation between macroeconomic factors and banks' loan losses. The impact analysis also makes use of data collected by the Financial Supervision Authority on the sensitivity of banks' balance sheet items to changes in market rates and prices. In 2007, the calculations covered almost 100% of the Finnish banking business, as measured by the balance sheet.

The imaginary scenario of weak economic growth employed in the simulation calculation extends over the period 2007-2009.[1] The scenario assumes that the Finnish economy is subjected to a globalisation shock involving labour market unrest, enforced relocation of production out of Finland and a significant decline in household confidence. Following a strong contraction of investment, together with a collapse of exports, Finnish GDP would decline during three consecutive years (Table). Employment would respond to a decline in production, with a notable increase in the unemployment rate. Consequently, growth in households' real disposable income would slow and finally turn negative in 2009.

Elsewhere in the euro area the economic development is assumed to remain in line with the base scenario and inflationary risks are even projected to rise slightly. Therefore, the stress scenario provides for a slightly higher 3 month Euribor rate than foreseen in the spring. Long-term interest rates are assumed to rise by all in all 60 basis points from the level witnessed at the end of 2006, causing the yield curve to steepen over the years 2008–2009. This is based on the assumption that liquidity conditions in global markets would gradually tighten.

Prices of housing and business premises are assumed to drop notably in 2007 but would start to increase again moderately over the next few years already. A further assumption is that the prices of shares present in banks' portfolios would decline considerably in 2007 and somewhat more in 2008–2009.

The increase in market rates would be reflected in both lending and deposit rates in the stress scenario. Lending rates would first increase much more strongly than deposit rates, thus widening banks' overall interest rate margins. Under the stress scenario, the increase in short-term market rates would come to a halt in 2007 but the average

[1] *The stress calculations have been conducted in spring 2007 and are based on available data at the time.*

Table.
Estimated development of key variables under the stress scenario

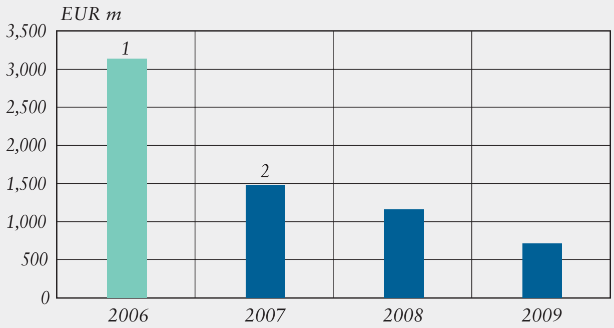
	2006	2007f	2008f	2009f
GDP volume, percentage change	5.5	–1.0	–0.3	–0.4
Unemployment rate, % of labour force	7.7	10.1	10.3	9.9
*3-month Euribor, %**	3.1	4.2	4.2	4.2
*5-year interest rate, %**	3.6	4.3	4.4	4.5
Share prices, percentage change	26.4	–26.0	–5.0	–5.0
*Real estate prices, percentage change***	7.6	–7.1	1.3	0.8

f = stress scenario forecast
** Annual average.*
*** Housing price index: whole country.*
Source: Bank of Finland's calculations.

Chart.

Estimated development of banks' total operating profits under the stress scenario

1. *Operating profits, outturn*
2. *Operating profits, under the stress scenario*



Source: Bank of Finland's calculations.

rate on the lending stock would increase further in response to for example higher risk of loan losses and interest rate adjustments occurring after a time lag. The lending stock would start to shrink in 2008 when both household and corporate demand for credit would decline significantly in response to higher lending rates and the unfavourable economic development. Deposits, in contrast, would grow very strongly to begin with, in the context of the increasing uncertainty surrounding other investments. Overall, the impact of the stress scenario on banks' net interest income would be positive in 2007 and slightly negative in 2008–2009.

The impact of the scenario on banks' other income would occur only after a time lag. The sluggish development of share markets and lending would reduce banks' fee income more strongly in 2008 and slightly less in 2009. Trading and investment income are also expected to decline.

Weaker-than-expected economic growth, together with a stronger-than expected rise in lending rates, would cause impairment entries (net) resulting from loan losses to increase strongly relative to the lending stock in 2007, from the zero level recorded in 2006.[2] The increase in loan losses would moderate in 2008–2009, when banks and debtors are able to gradually adapt their operations to weakened economic conditions. In addition, the rise in long-term interest rates and the decline in share and real estate prices would result in impairment entries, the combined effect of which would be largest in 2007.

In the stress scenario, the profitability of banking and its cost-efficiency as measured by the cost/income ratio would decline over the whole period under review. The strongest effect of the stress scenario on the banks would be exercised by the higher loan losses and impairments on share and bond holdings to be recognised at fair value.

Banks' total operating profits would be estimated to fall considerably but to remain clearly positive (Chart). Operating profits for 2007 would decline to half of those reported in 2006, largely because of negative value adjustments. Operating profits would continue to fall in 2008 and 2009, with total income starting to shrink and loan losses increasing further.

The stress scenario provides for considerable differences in performance between individual banks. Accrued large imputed buffers against losses (assets in excess of the minimum capital requirements of 8%), would, however, make the majority of the banks well equipped to sustain even considerable losses without their capital adequacy being jeopardised in the short term.

The economic development foreseen in the stress scenario would not jeopardise the stability of the Finnish banking sector during the period under review.

[2] *As typical for stress calculations, based on past experience, banks' loan losses are expected to be realised exceptionally soon.*

Box 2.

Do the new capital requirements intensify cyclical fluctuations?

Banks' capital requirements have been reformed in line with the proposals of the Basel Committee on Banking Supervision. The EU directives governing the new Basel II Framework have also been implemented in Finland this year, although the new Framework will be completely operational only in 2008. The regulatory capital to be held by banks is dependent on the risks assumed. The reform was designed to achieve a more exact and truthful calculation of these risks. Credit, market and operational risks will be considered separately, and provision has to be made for all of them through adequate capital allocation.

There are now alternative approaches to the calculation of credit risk. The Standard Approach does not differ much from former practice. With the supervisor's consent, banks may, however, apply either one of the Internal Ratings Based Approaches (IRBA). Under the Foundation Internal Ratings Based (FIRB) Approach, banks are only required to calculate the probability of default for each claim, whereas under the Advanced Internal Ratings Based (AIRB) Approach, banks are also required to estimate the expected value of losses in case the debtor defaults.

According to many estimates, the new Framework makes capital requirements cyclically sensitive. Under the Advanced Internal Ratings Based Approach, this sensitivity may be amplified as the expected loss, as well as the probability of default, is cyclically dependent.

According to a broad interpretation, the procyclicality of the capital requirement framework refers both to the cyclical sensitivity of capital requirements and the cyclical deepening caused by the framework. If capital requirements for loans are tightened in conditions of an economic slowdown, banks will be less able or willing to grant credit. This may reduce lending, thereby intensifying the recession. During an economic upswing, the credit risk, and hence the capital requirements, are reduced, which may make banks more willing and able to award credit and thus strengthen the economic upswing.

Experience so far does not give much indication of the seriousness of the problem. The system also has built-in properties that reduce procyclicality, in that it increases banks' risk awareness and obliges them to assess the adequacy of the capital held. Under the Capital Requirements Directive (2006/48/EU), the European Commission shall, in cooperation with member states and the ECB, monitor the potential effects of the reform on business cycles. The Banking Supervision Committee (BSC) of the European System of Central Banks (ESCB) and the Committee of European Banking Supervisors (CEBS) have set up a working group to collect capital adequacy data and analyse the potential procyclicality problem.

Distinctive Finnish features

At least in the past, the cyclical sensitivity of the Finnish economy has been stronger than in most other developed economies, so the capital requirements of banks applying Internal Ratings Based Approaches are likely to vary more strongly in Finland than in many other countries.

The Finnish banking sector is intensely capitalised. Hence, banks will probably not have to limit their lending despite a rise in average risks of credit portfolios and with additional capital not easily available.

Large banking groups operating in Finland often have extensive operations in countries whose business cycles only partly correlate with those of the Finnish economy. An economic recession in Finland would, thus, weaken the capital adequacy of many of the banking groups operating in Finland only slightly, thus lowering the degree of procyclicality.

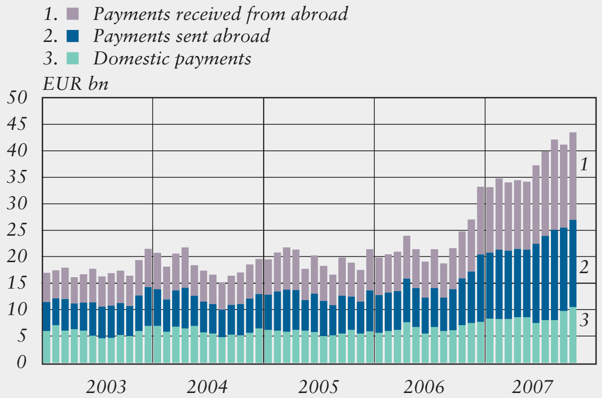
In Finland, most of the volume of outstanding loans consists of floating-rate loans. This reduces procyclicality as low interest rates, which alleviate the clients' situation, are normally a phenomenon of a recession rather than a boom.

Financial market infrastructure

The infrastructure of the Finnish financial market is reliable and the exceptional liquidity problems that appeared in the financial markets in autumn 2007 have not affected its operation. In the near future, integration will however change the current systems, creating completely new multinational structures both in payment services and securities markets. This may lead to increasing system vulnerabilities and higher systemic risks. Infrastructure development is based primarily on the needs of the European financial market; at the same time however, the needs of the global financial market must be taken into account. The Bank of Finland actively participates in the development of payment and securities systems both in Finland and as a member of the Eurosystem. The Payments Forum established by the Bank of Finland contributes to this work.

Chart 30.

Monthly volume of Finnish TARGET payments, daily average



Source: Bank of Finland

Reliability and efficiency of payment systems

Systemically important payment systems refer to large-value payment systems as well as retail payment systems and payment instruments important to the general public. The Bank of Finland has assessed the domestic systemically-important payment systems against the Core Principles approved by the Eurosystem.[1] Based on continuous monitoring by the Bank of Finland, Finnish payment systems in general have operated reliably and continue to fulfil the requirements set.[2] The status of the other payment systems critical for Finland can be deemed good (Appendix 1).

TARGET, the euro settlement system of central banks, can be considered the most important payment system in Europe due to its key role in the settlement of large-value payments and because all the major payment systems transfer funds via TARGET. In terms of value, nearly 90% of large-value payments in euro are processed via TARGET. The volume has remained unchanged on 2006.[3]

New participants and changes in the practices of some of the old participants have considerably boosted both the volume, and particularly the value, of transactions in the Finnish TARGET component in 2007 (Chart 30). The growth in volume has improved the coverage of operating costs in the Finnish component.

[1] Committee on Payment and Settlement Systems: Core Principles for Systemically Important Payment Systems.

[2] See Financial Stability Report 2006, pp. 47–51: Oversight assessment of payment systems.

[3] For more information on payment flows in TARGET, see the ECB Monthly Bulletin.

The growing proportion of foreign ownership in the Finnish banking sector and the fact that banks' systems are located outside Finland increase the technical vulnerability of banking operations. This is mainly reflected in the relatively high share of disruptions in the systems of TARGET participants operating from abroad: the number of disruptions is low, but in 2006–2007, as much as two-thirds of disruptions experienced by Bank of Finland account holders were disruptions in systems operated either partly or totally from abroad. The number of incidents was the same already in 2006, ie before new participants joined the Finnish TARGET component.[4]

The most serious disruptions experienced by market participants cause urgent manual instruction which weaken the efficiency of the system.[5] However, only a small proportion of disruptions cause manual instructions. With the exception of a few days, the number of manual instructions in BoF-RTGS has remained unchanged from the previous years (Chart 31).

Despite new members joining the Finnish TARGET component, the payment flows are still highly concentrated on a few key participants. The concentration ratios of the other payment and settlement systems operating in Finland, such as the systems for domestic large-value and retail payments, are also relatively high, which may increase the probability of a systemic risk in a serious disruption. The Finnish banking system is nevertheless well prepared for fluctuations in liquidity needs and has adopted the Eurosystem's new collateral framework.[6] In securities clearing and settlement, the situation seems to be getting increasingly challenging by the year in the case of an operational disruption experienced by key participants (Chart 32).

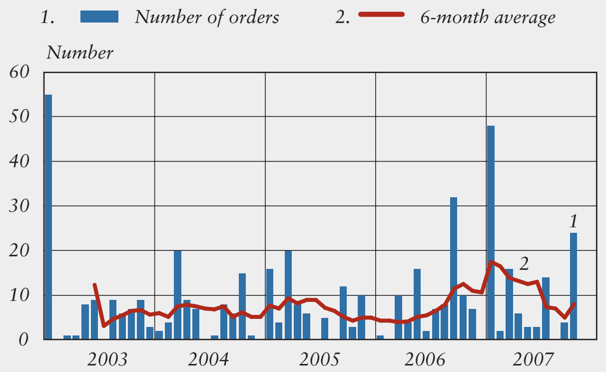
[4] The incident may be caused by an external factor or it may be due to the participant's own system.

[5] Moreover, in a disruption, standard payments queue in banks' systems.

[6] See the ECB Monthly Bulletin, May 2006, pp. 75–87.

Chart 31.

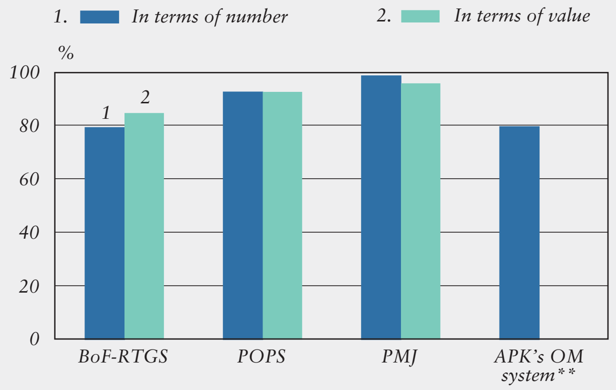
Manual orders in BoF-RTGS due to disruptions in market participants' systems



Source: Bank of Finland.

Chart 32.

Concentration ratio* of Finnish systems, October 2006–September 2007



** Calculated based on the value or number of payments in the five largest systems*
*** Value of payments: data not available*
Source: Bank of Finland.

TARGET2 successfully launched – Finland's changeover to the new system in February 2008 must be handled carefully.

The planning of TARGET2, the next generation of TARGET, started already in 2003, with a view to incorporating new countries joining the Eurosystem and to increasing the cost-efficiency of central banks. It is designed to facilitate multinational banks' cross-border payments in euro and liquidity management in particular. TARGET2 is expected to improve the reliability and performance of payment systems critical to monetary policy and the European economy. The aim is to harmonise the level of services provided to customers.

As account and business relationships continue to be handled through national central banks, the coordination of change management and timely communication play a key role in the controlled changeover to the new system.

Finland will migrate to TARGET2 on 18 February 2008, in the second country window.[7] Changeover preparations and testing will continue in Finland as long as possible to ensure a smooth changeover to the new system. The preparedness to transfer to the single shared platform seems to be good at the moment. The Financial Supervision Authority monitors individual institutions' preparations.

Table 4.

Key figures of the Finnish Central Securities Depository's clearing and settlement systems, 10/2006–9/2007

%

	Average (12-month)	*Range Lowest*	*Range Highest*
Availability			
RM system (Ramses)	*100*	*100*	*100*
OM system (HEXClear)	*99.81*	*99.20*	*100*
Centralised register	*99.95*	*99.40*	*100*
Issue service	*99.74*	*98.40*	*100*
Settlement rate			
RM system (Ramses)	*99.74*	*98.18*	*100*
OM system (HEXClear)	*99.29*	*99.01*	*99.49*
Settlement rate of the slowest and the most constant clearing parties		*50.00*	*100*

Source: APK.

Reliability and efficiency of securities settlement systems

The Finnish Securities Depository's (APK) key services are issuers' services, clearing and settlement, maintaining investors' and intermediaries' book-entry accounts, and promoting the handling of corporate actions. In the past 12 months, the APK's operational reliability has remained good and the clearing and settlement systems have been spared of serious disruptions. The recent turbulence in the market was reflected only in a growth in the volume of trades settled and no serious disruptions took place. Growing volumes at the time of market disruptions is an indication that market participants have confidence in the APK's methods of eliminating settlement risk. A lack of confidence would have resulted in market participants channelling their operations to other depositories.

The securities clearing and settlement systems have, on the whole, functioned reliably (Table 4). Particularly the availability of the RM system used for the settlement of debt securities

[7] The changeover to TARGET2 takes place in three migration waves: the first group of countries migrated on 19 November 2007, the second group migrates on 18 February 2008, and the third group on 19 May 2008.

has been excellent. As an improvement on the previous year, no errors have taken place in the book-entry register in 2007. On the whole, the number of incidents declined on 2006.

In 2007, the on-exchange trades settled in the APK's HEXClear system fulfilled, on average, the international recommendations on settlement.[8] The difference between the settlement rates of the most constant and the weakest broker is nevertheless significant, and some remote brokers record below-norm performance month after month.

As with payment systems, as the physical locations of the APK's clearing parties' operations are transferred farther away, the distance to the clearing parties' decision-making grows and reachability often deteriorates. This may cause serious delays in solving possible disruptions. In a more extensive crisis, a participant may consider the Finnish market less important than the large markets. The same concern applies also to possible future solutions where settlement would take place in a settlement system covering several markets.

The APK's systems operate efficiently (Table 4). The HEXClear's new interface which fulfils international standards makes the system more attractive to new clearing parties. The settlement rate has risen slightly on 2006, despite a nearly 70% growth in the volume of trades settled. Volume growth is thus the biggest risk to settlement. In response to growing volumes, the APK has for example increased its settlement capacity and subsequently analysed its settlement activities on peak days. On the Finnish market, equities trades settled are concentrated on only a few participants.

The growing volume of securities trades did not cause problems.

The significant growth in the value of equities trades settled, in particular, has slightly increased the amount of liquidity tied to settlement. Nevertheless, the risk of a disruption in a securities settlement system causing problems to payment flows in the Finnish TARGET component is still minor. In 2007, contagion risk grew slightly in the settlement of equity trades; it is nevertheless only half the size of the risk in the settlement of debt securities. In terms of the whole settlement process, the most critical days are the maturity dates of bonds issued by the State Treasury. [9]

Near future development of payment system

Integration will set the pace for the development of payment systems in Finland and throughout Europe. TARGET2 will harmonise the large-value payment systems of euro area central banks, whereas the Single Euro Payments Area (SEPA) will change the European retail payment systems.[10]

SEPA will start in 2008...

[8] International Securities Services Association (ISSA) has issued recommendations on the minimum level of settlement (based on number and value of trades).

[9] The assessment is based on a simulation made using the Bank of Finland's payment and settlement system simulator. The simulation was based on the assumption that the repatriation of funds reserved for settlement was completely unsuccessful. The analysis was made on the Finnish Central Securities Depository's equities and debt securities settlement systems, using data from the period January 2004–September 2007.

[10] Single Euro Payments Area; see Financial Stability 2005, Box 6, and Financial Stability 2006, p. 51.

...when will the European payment card be created?

SEPA will be introduced on 28 January 2008, but this is more the start of a transitional period covering several years than a single major accomplishment. From that date on, commonly defined pan-European credit transfer will be available to customers in its basic form. Customers however still have to wait for the additional services which maintain the current level of domestic services and for direct debit and the European payment card. Despite these missing parts of SEPA, European banks have reached major medium-term goals in creating a European payments area: the principles for the new payment methods and their maintenance and development have been established.

There is wide consensus on the standardisation of payments, and in future, European standards together with application guidelines (already issued on credit transfer and direct debit) will be issued also on the functioning and handling of payment cards. European direct debit can be introduced once the Payment Services Directive has been implemented,[11] and when the new form of authorisation safeguarding the interests of the payer has been completed.

The situation is more difficult for the pan-European payment card because it is difficult for current domestic card schemes or completely new cards to compete on attractiveness on the European market with cards issued by the international card companies like Visa and MasterCard. The authorities, the European Commission and the Eurosystem, actively encourage banks to create a European debit card scheme. According to the original time-table, the majority of card transactions should migrate to SEPA instruments by 2011. A longer transitional period is acceptable as long as the goal is correctly designed.

Finnish banks updated the national SEPA migration plan in May 2007. In comparison with the plans issued by other European banking communities, the Finnish plan is clear; it describes fairly well the effects the new services will have on banks as well as end customers. However, the plan is not detailed enough to support customers' changeover to SEPA payment methods. Several details still have to be specified, such as the introduction of the International Bank Account Number (IBAN) and Bank Identifier Code (BIC) in all payments (incl. current domestic payments). Particularly corporate customers should know at least the following:

- How to convert the current national account numbers in the customers' ledger to international bank account numbers.
- The date when the additional services maintaining the national level of services are available.
- The date when the customers' application guidelines on the information content of SEPA payments are available.

Until these types of concrete issues have been resolved, at least corporate

[11] The Payment Services Directive (PSD) should be implemented in national legislation by November 2009.

customers are unable to change over to SEPA payment methods. Another problem may be that according to the migration plan, decisions on the provision of many of the additional services maintaining the current level of services are made on a bank-by-bank basis. Will it be the customer's responsibility to find out which SEPA services are available and when?

Overall, based on the migration plan, Finnish banks are not that enthusiastic about SEPA. Banks have announced that they will implement the required system changes on schedule and that they are planning technical arrangements that would enable the processing of all euro payments in Europe as domestic payments. In contrast, highlighting the benefits to customers, ensuring the level of services and giving guidance and training to customers requires more effort. These matters require urgent attention because the first phase of SEPA will be introduced in about four weeks.

The Single Euro Payments Area will inevitably change the structure of the current payment system because the aim of the initiative is to generate efficiency benefits by harmonising and integrating the national payment transfer systems into payment transfer centres operating at the European level. Currently, 3 to 4 such centres seem to be in the pipeline.[12] Concentration generates not only economies of scale but also economies of scope. A concentrated infrastructure enables the simplification of individual operators' internal processes. Moreover, each investment has to be made only once.

Customers need detailed instructions on the new payment methods.

The downside to increased efficiency is giving up current systems that would still have a life expectancy, even if there were no amortizations left. Small participants' possibilities of influencing and making choices diminish and they have to find new strategies to survive.[13] Development decisions are made on the terms of large European or global operators, and thus there is a danger of 'first and second-class' services being created in Finland. Large banking groups are able to fully utilise the European systems and the smaller operators have to provide basic services the best they can. There is also a real longer-term risk of payment system know-how disappearing from Finland.

The ongoing integration must be assessed not only in terms of efficiency but also in terms of financial market stability. The concentration of infrastructure increases the possibility of systemic risk, and the continuity and contingency measures of the participants in question have to fulfil special requirements. This underlines the importance of strict oversight of important infrastructures. For Finland, integration seems to be leading to the migration of domestic payment system, by means of a so-called SEEBACH arrangement, to the STEP2 system

[12] Thus far, EBA Clearing, Equens, STET, and Voca have announced that they will establish a pan-European payment transfer service, PEACH.

[13] An example of this is the joint payment centre initiative announced by savings banks, Aktia Savings Bank and local cooperative banks.

Box 3.

Payments Forum – Bank of Finland's new cooperation initiative for the development of payment systems

Finland is able to benefit from the integration of European payment systems as competition increases and diversifies. At the same time, we will however, have to consider ways of maintaining the existing services that have proven to be good and of developing the new, single market. Finland remains a forerunner in the automation of payments and is an example to many countries. To support the development of payment systems, the Bank of Finland has organised a Payments Forum where various interest groups in the field of payments can openly discuss how payment systems should be developed. The Payments Forum organises eg seminars and prepares studies on topical issues.

With the Payments Forum, the Bank of Finland seeks to provide means of identifying the key projects in the development of an efficient payment system and for promoting them through the appropriate channels of influence. In May 2007, the Payments Forum organised a seminar in which various market participants and authorities participated. The seminar focused on four key areas: the ripening of opportunities provided by new technology, to services with a wide application, the growing importance and challenging role of data security, the integration of payments to a company's financial administration process, and possibilities of supporting development through regulation. In summary, the seminar participants prepared five strategic guidelines to support the development of payment systems:

- Finnish payment systems have to develop as part of the European and global integrating financial markets.
- We have to promote the use of standard-form digital information that enables the use of automated processes across functions, organisations and borders.
- High-quality data security must be an integral part of efficient payment services.
- Development projects must be assessed and supported in cooperation with market participants. The needs of the end-user must come first.
- Measures by authorities aim at safeguarding the reliable functioning of payment systems, while at the same time promoting efficiency and competitiveness. The measures have to be coordinated.

Concrete work for identifying the areas and channels for exercising influence continues in expert groups, headed by the Bank of Finland. The most important area is **promoting electronic invoicing** in Finland and Europe as a whole. Despite our role as a forerunner, still remains much to be done also in Finland before the benefits of electronic invoicing can be widely utilised in the corporate and consumer sectors. The second area of development is **customer identification** in electronic channels. Sufficiently reliable, general-purpose customer identification is essential in almost all electronic services. If it is excluded from the integration process, end-customers have to adapt to various types and levels of procedures to be able to use standardised payment services. This would erode the benefits of integration. Thirdly, the expert groups are preparing a framework for analysing **the efficiency and costs of payment from the viewpoint of end-users.**

The first seminar organised by the Payments Forum focused primarily on the needs of companies and the public sector. The next seminars should focus on deepening awareness on services required by private citizens, services that take account of the efficiency provided by technology, and consumer protection.

maintained by EBA Clearing.[14] The arrangement serves mainly large banks operating actively in the international market. Time will tell whether Finland can maintain its position as a forerunner in the development of payment services, in a situation in which development is based on the terms of a wide international community. The arrangement is market-driven, and much depends on the influence that can be gained by Finnish expertise. Operational or technical competence is not enough, we also need marketing skills under these conditions. The responsibility of the authorities will be to examine the criticality of payment systems from the viewpoint of national contingency measures. Is the national importance of payment systems as high as that of cargo vessels, sugar mills or corn emergency stockpiles? Incidents have revealed that a modern economy can hardly survive without a well-functioning payment transfer system.

Development of securities infrastructure

As projected a year ago, some securities market infrastructure projects were completed in 2007, particularly in terms of ownership arrangements of marketplaces. In the Nordic countries, OMX has thus integrated the regional exchanges and harmonised operating practices in various countries. The International Monetary Fund (IMF) has even used the Nordic countries as an example of regional integration.[15] The operating environment has nevertheless changed and stock exchanges are seeking efficiency and cost savings by means of global consolidation. A regional perspective is not sufficient anymore.

The second stage in the integration of stock exchanges was completed in 2007.

The global equities market has been developed by two operators: the New York Stock Exchange (NYSE) and the technology-oriented US exchange Nasdaq. The New York Stock Exchange completed its merger with Euronext in spring 2007, and following various developments, Nasdaq is merging with OMX, after committing to the Swedish strategy in the Nordic countries. On the European level, the London Stock Exchange (LSE) and Borsa Italiana merged in autumn 2007. The new groups are now seeking efficiency and new operating procedures.

Deepening integration is also reflected in the growth of equity investment. Finnish equity investments in the Nordic countries have more than doubled between the first quarter of 2004 and the third quarter of 2007. Approximately half of this is explained by changes in the level of valuation of equities. Of the Nordic countries, Sweden has been the focus of Finnish direct equity investments. In contrast to the situation a year ago, it can now be cautiously estimated that the launch of the Nordic List in autumn 2006 has boosted integration (Table 5), which is reflected in the growing number of cross-border direct equity portfolio investments.

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14 STEP2 is one of the payment systems offering pan-European services. Finnish banks intend to use STEP2 in future also for clearing and settlement of domestic payments. Arrangements corresponding to the special characteristics of Finnish payment transfer will be incorporated into STEP2. The arrangements are referred to as SEEBACH.

15 See IMF: Financial Integration in the Nordic-Baltic Region: Challenges for Financial Policies, 2007.

Competition-fostering regulation enters into force in stages.

The increasingly global operating environment of stock exchanges is inevitably reflected also in post-trading. The Nordic service concept currently being developed by the Swedish-Finnish securities depository NCSD no longer fully meets the stock exchanges' new needs.

The European central securities depositories' geographical business areas have remained unchanged for the last couple of years. The central securities depositories are however clearly preparing cooperation agreements and seeking partners in the field of system cooperation. The projects may also lead to mergers. It would be advisable that the solutions equally support the marketplaces that have developed with varying paces.

Changes in the operating environment and active development initiatives by the authorities have triggered a stronger-than-before change in post-trading. The Code of Conduct agreed between the key industry associations of financial market infrastructure and the European Commission has a direct impact on the operating environment of central securities depositories.[16] An initiative with an indirect impact is the Directive on markets in financial instruments (MiFID) which has entered into force in Europe. The impact of these initiatives on securities clearing and settlement should start to show in 2008. The aim of the Code of Conduct is to increase operational transparency and competition between central securities depositories.

In the first stage of the implementation of the Code, measures were introduced to increase the transparency of pricing. The most significant impact was however, realised in the second stage, with system access and interoperability, as key European operators, including central counterparties, requested for mutual access to exchanges[17] to be able to compete on equal terms on the provision of settlement services for securities issued in neighbouring markets. In the third stage, accounting and pricing separation must be introduced on services, ie a service may not be supported by income from other services, which is likely to lead to changes in pricing. It also means that customers cannot be forced to take a service package. Competition thus seems to have begun and it should reach the

Table 5.

Finnish outward equity investments, EUR million

		Iceland	*Norway*	*Sweden*	*Denmark*	*Nordic countries, total*	*Nordic countries, proportion (%)*	*Outward, total*
2004	*Q1*		*229*	*3,763*	*357*	*4,349*	*19.53*	*22,273*
	Q2		*295*	*4,011*	*372*	*4,679*	*19.94*	*23,464*
	Q3		*312*	*4,217*	*355*	*4,884*	*20.73*	*23,556*
	Q4		*431*	*4,439*	*359*	*5,229*	*21.33*	*24,508*
2005	*Q1*		*510*	*4,707*	*392*	*5,610*	*21.98*	*25,528*
	Q2		*610*	*4,618*	*385*	*5,613*	*19.94*	*28,148*
	Q3		*713*	*4,999*	*409*	*6,121*	*19.50*	*31,390*
	Q4	*9*	*853*	*5,259*	*468*	*6,590*	*19.84*	*33,222*
2006	*Q1*	*11*	*910*	*5,938*	*439*	*7,299*	*20.07*	*36,378*
	Q2	*10*	*841*	*5,394*	*427*	*6,672*	*20.76*	*32,133*
	Q3	*11*	*869*	*5,893*	*457*	*7,230*	*20.83*	*34,715*
	Q4	*13*	*984*	*7,066*	*529*	*8,591*	*22.50*	*38,185*
2007	*Q1*	*12*	*1,172*	*8,025*	*553*	*9,761*	*24.70*	*39,518*
	Q2	*17*	*1,223*	*8,315*	*587*	*10,142*	*24.30*	*41,745*
	Q3	*14*	*1,215*	*9,778*	*561*	*11,568*	*27.55*	*41,986*

Source: Bank of Finland.

16 European code of conduct for clearing and settlement, 7 November 2006.

17 See eg Finextra: 'Deutsche Börse requests market access under new clearing code', 21 September 2007; and press release by SIS x-clear and Eurex Clearing, 18 September 2007.

corners of Europe in the course of 2008. Whether this is a true competition situation remains to be seen.

The NCSD's vision on a Nordic harmonised post-trading infrastructure remained an initiative involving only two central securities depositories. Significant resources have been used for planning system harmonisation, but the concrete benefits to customers have remained meagre. The implementation of the key elements of the initiative, eg the single clearing and settlement system, was postponed, and the whole initiative seems to be challenging. The development of internal processes and the rationalisation of IT systems increase internal efficiency. Customers will however feel the impact with a lag, in the form of eg lower transaction fees; several European central securities depositories have, in fact, been able to reduce fees. The NCSD has offered reductions to the remaining owners in the form of significant dividend distributions. The introduction of central counterparty clearing,[18] already commonly used by counterparties elsewhere, would, as a result of netting, reduce the number of transactions in settlement and weaken the NCSD's possibilities of cutting transaction fees.

As the operating environment changes, the central securities depositories operating the NCSD have to give thought to which services would be natural to them, considering their position in the market infrastructure. An example of this is the registering of cooperatives into the book entry system, which became possible in 2007. In many countries based on direct holding of securities, fund units are usually held in custody at a central securities depository. In the new member states of the European Union, various types of registry services, such as the maintenance of voluntary pension insurance accounts, are provided by central securities depositories.

In terms of efficiency, the APK's key problem remains the dual technical structure of the book entry system. The aim must be to develop a clearing and settlement system that would settle both debt securities and equities trades.

TARGET2-Securities

The integration of post-trading has made slow progress in Europe. The single currency was introduced years ago and the European payments area will soon be a reality, but the infrastructure of European securities markets is still inefficient. Differences in legislation, settlement practices and procedures create bottlenecks in cross-border securities trading. The Eurosystem intends to provide a technical solution to these problems.

By putting effort into the TARGET2-Securities project, central banks are working for the European securities markets.

The proposed TARGET2-Securities initiative would entail the construction of a common IT platform for central securities depositories where they could outsource their settlement system and the maintenance of securities accounts. This technical solution offers a single alternative for deepening integration, without the consolidation of central securities depositories.

The Eurosystem has been preparing the user requirements for the

[18] A central counterparty (CCP) is an entity that interposes itself between the counterparties to trades, acting as the seller to every buyer and the buyer to every seller.

system in a transparent manner and in good cooperation with market participants, despite the tight time-table. The initiative aims at making the settlement of cross-border securities trades operationally as efficient as the current settlement of domestic trades. The benefits would however, be more diverse:

The cost effect is being examined by Finnish operators.

- Improved efficiency would also lower settlement costs in cross-border securities trades.
- Issuers could attract a wider group of investors and their legal costs would decrease because securities issued on the international market would no longer have to be registered outside the home country.
- Integration would increase investors' effective choice of investment instruments.
- From the perspective of clearing parties operating in several markets, the creation of a single shared system would decrease the number of systems tying liquidity.
- Central counterparties trust that the initiative will enable them to acquire harmonised membership in all the marketplaces.

Despite the initiative being welcomed, various interest groups have expressed a number of concerns. From the perspective of the Finnish market, the main concerns relate to the model of direct ownership: from the perspective of operative efficiency and costs, does TARGET2-Securities provide uniform services to the Finnish market and markets with tiered holding systems, without distorting the competitive situation? Another key concern is pricing: does the price of domestic transactions rise with possible changes to the settlement model? The cost effect and legal matters concerning overnight settlement have also been discussed.[19]

The concrete impact of the TARGET2-Securities initiative will be felt early next decade, at the earliest, if the decision to construct the system is made in mid-2008, as planned.

[19] APK does not currently provide overnight settlement of securities trades. However, if volumes continue to grow significantly it may become topical to advance the start of the settlement day. This may however, result in additional costs.

Financial system policy

Recent financial market disturbances have revealed shortcomings in regulation and supervision concerning financial markets and institutions, and in the preparedness of the relevant authorities for managing financial crises. Regulation and supervision have laid too little emphasis on liquidity risks facing financial institutions and markets. In order to strengthen the stability of the Finnish financial system, the position of national authorities should be reinforced, in particular in respect of EU legislation on supervision and crisis management concerning branches of foreign banks.

Consolidation of financial market infrastructures reduces Finnish market participants' and authorities' chances of exercising direct influence on such systems. For this reason, particular attention should be given to equitable governance of systems and to enhancement and harmonisation of official scrutiny and cooperation.

The financial market volatility that emerged in late summer provides an indication of the vulnerability of financial systems to periodic disruptions and, at worst, to 'systemic' financial crises that may have very harmful impacts on the real economy. In the last few decades, the number of financial crises has even increased. The majority of the crises have taken place in emerging economies, but on the basis of recent incidents, not even developed economies are protected against serious problems occurring periodically in financial institutions and markets.

One important task of authorities responsible for financial market stability is the prevention of financial crises through appropriate regulation and supervision as well as through oversight and macroprudential analysis conducted by central banks. In all these areas, recent financial market disruptions have disclosed shortcomings that contributed to the build-up of the disruptions.

Recent disturbances in financial markets have not impaired the functioning of market infrastructures[1] despite market participants' liquidity being tied up more than normal to meeting central counterparty collateral claims. Market developments are leading towards consolidation of infrastructures, which helps facilitate banks' liquidity management in the future. For a number of countries, however, it means relocation of infrastructures to another country. This puts market participants and authorities up against a new situation, as systems are no longer within their direct sphere of influence. Market participants and authorities therefore need to ensure the existence of sufficiently equitable and efficient governance structures for systems and to enhance cooperation and application of commonly agreed standards and assessment methods.

Regulation and supervision

The financial market turmoil has again raised demands for more regulation and

[1] Payment systems and securities trading, clearing and settlement systems.

tighter supervision. However, we may be warranted in asking why recent incidents in financial markets came as a surprise to almost all and how much the situation could be remedied through regulatory changes.

Concerns about excessive risk-taking because of a good liquidity situation and a low level of interest rates in financial markets had already existed over a longer period of time. A tightening of the liquidity situation had been predicted as causing problems in both the economy and the functioning of financial markets, sooner or later. The tightening was, however, forecast to be gradual, and the markets were believed to be capable of adapting to changed circumstances. Any unpleasant surprises were assumed to come, for example, via hedge funds or banks' other large counterparty risk concentrations. Despite increasing warnings in the last twelve months of the possibility of sharp liquidity shocks, no one could anticipate the extent of the sudden drying up of market liquidity that was experienced in late summer.

The financial market turbulence has sparked a search for areas in need of development in regulation and supervision.

Explanations for the incident and simultaneously areas requiring development in regulation and supervision have been sought in a number of fields:

– inadequate market transparency
– supervisory failure
– overly complex new structured products and insufficient functioning of risk management systems
– role of credit rating agencies
– excessive disintermediation of credit (originate-and-distribute strategies).

Defects in market transparency

A more effective dispersion of credit risks has undermined market transparency by increasingly transferring risks to institutions that are out of reach of supervision, on the one hand, and by creating complex instruments for risk transfer purposes, on the other. Partial imperfections have also been identified in banking regulation concerning off-balance-sheet commitments.

The Basel II capital framework, which is currently being introduced in stages, puts greater emphasis on supervised entities' risk transparency, thereby improving the situation compared with previous capital adequacy rules. In the light of recent events, however, it has been deemed necessary to clarify the adequacy of Basel II obligations.

Even if reasons underlying the market turmoil also include a failure or reluctance to make use of available information, improvements in market transparency are still possible and worthwhile. But additional reporting requirements on banks and tighter regulation also have their price. The outcome may be not only higher costs but also increasing offloading of operations from banks' balance sheets and thus out of reach of supervision and regulation. Measures taken in a hurry may lead to even greater difficulty of risk control.

Supervisory failure

Rapid financial market developments continue to pose new challenges to supervision. Supervisors must attain a better understanding of risks related to new complex structured products, for example. In recent years, authorities have strongly focused on the management of credit, market and operational risks, while less emphasis has been placed on liquidity risk. The increased use of off-balance-sheet items and particularly derivative products has been seen, but not enough attention has always been paid to interlinkages between the risks inherent in these operations and other banking business.

Official supervision has apparently failed to identify the overall risk exposure related to financial activity in each particular case. Nor has adequate consideration been always given to the liquidity of individual institutions. To remedy the situation, regulatory changes are not necessarily needed, however. The recurrence of a number of recent problems can be prevented through stronger emphasis on liquidity risks encountered by financial institutions, better cooperation with other parties and through closer monitoring of financial market developments.

Complexity of structured products

Many of the new financial products are highly complex in structure. It is increasingly difficult to assess risks inherent in them, and it is often difficult to trace the ultimate risk bearer.

Even so, investors must themselves be capable of understanding the types of risk included in instruments and recognising the limitations of even sophisticated risk management systems. Responsibility cannot be transferred elsewhere by appealing to external risk assessments or failures in risk management systems.

It cannot be expected either that, in the event of a market disturbance, authorities determine market prices for various assets. Making use of available tools, authorities can however support the normalisation of markets and the functioning of pricing mechanisms.

Too little emphasis has been laid on liquidity risks.

Credit rating agencies

The way in which credit rating agencies rate structured products and their sudden downgrades on a number of securities last summer have been much criticised. Rating agencies have defended themselves by stating that their ratings only concern credit risk rather than market or liquidity risk. This explanation is not satisfactory in all respects, as abrupt and large downward revisions to credit ratings by credit rating agencies following public disclosure of subprime problems point to vulnerabilities in rating agencies' underlying methods.

Credit rating agencies have also been accorded very high prominence in the new Basel II framework. If credit ratings used as a basis for capital adequacy calculations are not on a sound footing, the credibility of the system as a whole could be easily jeopardised.

Looking ahead, credit rating agencies should be able to better demonstrate the types of risk that assigned ratings reflect. Additionally, the dual role of credit rating agencies as both advisers to structured securities and assigners of official credit ratings requires careful evaluation. Authorities have already taken initiatives in this respect.

Banks' changing role

In recent years, banks have increasingly been using the 'originate-and-distribute' business model. In this model, banks extend credits but offload related risks from their balance sheets eg via securitisation of extended credits. Transferring risks off balance sheets is not always simple, however. And, as recent episodes have clearly shown, many of the risks that were believed to be transferred off, may return back to banks' balance sheets, albeit in a different form.

Lessons must be drawn from recent incidents, but large-scale changes to regulation and supervision require a fundamental analysis.

Securitisation has become an important form of operation for both banks and financial markets, and there is no reversion to previous practices. Banks (and supervisory authorities) should be better able to ensure in the future that risks really move away from banks' balance sheets and will not reappear as soon as problems in the market emerge.

The impact that increased risk transfer has on banks' incentives to monitor their loan customers needs to be analysed and adverse effects mitigated.

Repercussions for Finnish financial markets

The implications of the financial market turbulence for the functioning of Finnish banks have so far remained small. The credit for this largely goes to prudence exercised by banks in taking new types of risk. Furthermore, securitisation has been exercised to a relatively limited extent in Finland, and banks have mainly retained extended credits on their balance sheets. This does not mean, however, that in the future we would be better protected against disruptions in international financial markets or that the ramifications of prospective market problems would remain here automatically more subdued than elsewhere.

Many lessons can be learned from recent incidents, and there are many means of carrying out matters so as to prevent similar problems from occurring as easily as in the past. But there is no reason to start making large-scale changes to regulation and supervision before a more fundamental analysis of reasons for the latest turbulence has been undertaken.

The introduction of the Basel II framework has given Finnish supervisory authorities fairly extensive rights to interfere in operations involving excessive risk-taking. On top of this, the central bank and the Ministry of Finance dispose of tools enabling them to participate, if necessary, in the prevention and unwinding of situations threatening financial stability. However, ongoing structural changes in the banking sector will materially change the situation and essentially weaken Finnish authorities' chances of intervening in such destabilising events.

The Danish Danske Bank has announced its intention of changing Sampo Bank into a branch in spring 2008. In addition, Nordea has announced its objective of acquiring European company status. As a European company, the Nordea Group would conduct banking business in Finland through a branch instead of the current subsidiary structure. If the planned changes materialise, the main supervisory responsibility for Sampo Bank will be transferred to Denmark and for Nordea's Finnish banking operations to Sweden, in accordance with the EU principle of home country control.

Nordic supervisory authorities and central banks are currently engaged in extensive cooperation in an effort to safeguard the stability of financial markets. The importance of this cooperation will increase further still in the future. The current cooperation is however largely based on voluntary memoranda of understanding (MoUs). It is important that the host country also has adequate opportunities and powers in each particular case to access information on operations of nationally significant banks.[2] Likewise, host country authorities should have the possibility of participating in actions fostering financial stability in respect of nationally significant banks, even if the main responsibility rested with home country authorities.

Crisis management

Lessons drawn from financial market turmoil

The recent financial market turmoil has led to at least four important observations that need to be considered in the development of legislation and authorities' crisis management capabilities.

First, the fifth largest UK mortgage lender, Northern Rock, headed for serious liquidity problems in September, when funding raised by it in the mortgage-backed securities market suddenly dried up. As no 'private sector' solution could be found for Northern Rock's liquidity problems, the Bank of England was forced to grant emergency credit to the bank in order to safeguard the stability of Britain's financial markets. Publication of the emergency credit decision did not calm the situation, leading instead to a run on Northern Rock. In order to stop the bank run, H.M. Treasury had to guarantee the deposits held with Northern Rock. The Treasury subsequently extended its guarantee to cover all other banks' retail deposits.

The case of Northern Rock shows how quickly the liquidity problems of even a solid bank may become critical especially at a time when financial markets do not function normally. Admittedly, management of the Northern Rock crisis was facilitated by the fact that the crisis was mainly confined within the frontiers of a single country. However, there is greater likelihood that future financial crises will hit financial groups with important business operations in a number of countries. EU-level legislation and other official arrangements concerning cross-border financial crisis management are imperfect, especially from the perspective of countries like Finland, where the share of foreign banking is significant.

The liquidity of an even solid bank may weaken rapidly in the event of a financial market disturbance.

Second, the run on Northern Rock revealed the importance of depositor confidence in banks to financial stability.

2 See Bank of Finland Bulletin 2/2007, p. 25–26.

Financial institutions and authorities need to be prepared for a higher probability of systemic crises originating from disturbances in the functioning of markets.

Partly thanks to deposit guarantee schemes (Box 4), the number of bank runs has sharply decreased in recent decades. Even so, deposit guarantee schemes need to be upgraded further. To prevent bank runs, deposit guarantee schemes should cover retail deposits up to a sufficiently high amount. If problem-rife bank were unable to pay out deposits, the relevant deposit guarantee fund should pay out deposits within a reasonably short time frame. Deposit guarantee schemes should also be so unambiguous and transparent that depositors have a clear understanding of the coverage of deposit protection.

Third, recent incidents illustrate that a phenomenon similar to a bank run may also occur in the securities market, when a large number of investors simultaneously reallocate their portfolios, shifting assets into low-risk investments. Such 'market runs' typically involve sharp fluctuations in asset prices, strong declines in market liquidity and, at worst, an almost complete seizing up of markets.

As banks' links with financial markets have continued to increase, market problems may spread to banks more easily than before. Future financial crises may with a higher probability originate from disturbances in financial markets. In stress testing and contingency planning, financial companies should test their vulnerabilities to shocks, using sufficiently extreme crisis scenarios. Authorities, in turn, need to prepare themselves for crisis situations where a large-scale seizing up of financial markets is either the originator or reinforcer of the crisis.

Fourth, the Northern Rock crisis indicated that, in liquidity crisis situations, a central bank must be prepared to take prompt action and that its measures must be based on timely and comprehensive information to the extent possible. A smooth flow of information between financial supervisor and central bank is indispensable in crisis situations.

The government has incorporated in its programme an objective for the consolidation of the Finnish Financial Supervision Authority (FIN-FSA) and the Insurance Supervisory Authority. According to the assignment by the Ministry of Finance and the Ministry of Social Affairs and Health, the new organisation will be set up to operate in connection with the Bank of Finland, thereby contributing to effective flow of information.

EU crisis management development plans in the right direction, but insufficient

At the ECOFIN Council October meeting, EU finance ministers and central bank governors agreed on common principles for cross-border financial crisis management.[3] According to these principles, primacy in crisis management concerning a banking group will be given to private sector solutions and the management of the bank will be held accountable, shareholders will not be bailed out using public money, nor will the losses suffered by uninsured creditors be covered.

Public money will be used for crisis resolution only as a last resort in

[3] See ECOFIN Council press release (9 October 2007).

Box 4.

Differences even between Nordic deposit guarantee schemes

Deposit guarantee scheme in Finland

The Finnish deposit guarantee scheme is based on the EU Directive (94/19/EC) on deposit guarantee schemes. Each member state must have in place at least one deposit guarantee scheme, and each bank is required to be a member of any one of such schemes. The scheme must guarantee depositor assets up to at least EUR 20,000. As the directive imposes no upper limit on deposits subject to compensation, there are major national differences in the coverage provided by the schemes.

In Finland, responsibility for deposit protection lies with the Deposit Guarantee Fund and the upper limit of reimbursable deposits has been fixed at EUR 25,000. Protection is calculated per bank and per depositor. A customer may keep deposits exceeding EUR 25,000 within the scope of the coverage by dividing his/her savings among several banks. The Deposit Guarantee Fund is not backed by government guarantees; rather, its repayment capacity is based on pre-collected assets and its right to raise credit. The Deposit Guarantee Fund's holdings of contributions from member banks and income from their investment currently amount to a good EUR 420 million, accounting for about 1.2% of the aggregate amount of protected deposits.

Deposit protection provided by a foreign bank in Finland

The directive on deposit guarantee schemes provides that the level of cover offered shall be determined by the deposit guarantee scheme applied in each bank's home country. Depositors' citizenship or place of residence is of no importance. Hence, a foreign bank's branch operating in Finland does not normally belong to the Finnish deposit guarantee scheme. It may, however, join the Deposit Guarantee Fund if it wishes to supplement its home country's deposit protection in Finland. By contrast, a foreign bank's subsidiary operating in Finland must always be a member of the Finnish Deposit Guarantee Fund.

Deposits with a foreign bank's branch will be primarily covered in accordance with the regulations of the bank's home country.[1] There are however considerable variations in the maximum level of reimbursable deposits. The maximum level of deposits compensated for in Finland is EUR 25,000, in Iceland about EUR 20,000, in Sweden about EUR 27,000, in Denmark about EUR 40,000 and in Norway about EUR 250,000. Comparability between deposit guarantee schemes of various countries is also complicated by differences in the definitions of deposits subject to compensation and by netting rules.

Repayment of funds to depositors

A depositor may notify the Financial Supervision Authority (FIN-FSA) if a bank fails to repay the depositor's funds with the bank. The FIN-FSA must determine within 21 days whether the depositor's claim is justified and whether the Deposit Guarantee Fund has to repay the deposits on behalf of the bank. The obligation to pay will fall on the Deposit Guarantee Fund if the bank is deemed to be in payment or other financial difficulties and such difficulties are assessed to be other than temporary. The Deposit Guarantee Fund is obliged to repay the depositor's assets within three months from the FIN-FSA's decision. If the bank has been placed in liquidation prior to the FIN-FSA's decision, the time limit will be calculated from the placing in liquidation.

Claims for repayment of deposits with a foreign bank's branch are primarily subject to the bank's home country regulations.

[1] *Supplementary protection, in turn, according to the host country's regulations.*

situations where the crisis threatens to cause major costs for the economy as a whole. Authorities are expected to discuss in normal times the criteria for sharing crisis management costs between member states. Such criteria must be equitable and balanced, taking into account the economic impact of the crisis in the countries affected.

Under the principles agreed by the ECOFIN Council, the objectives of crisis management are to protect the stability of financial systems in all countries affected by the crisis and to minimise the overall collective cost caused by the crisis. The division of responsibilities between authorities in crisis management is seen as being consistent with the division of responsibilities between banking supervisors in the supervision of cross-border banking groups. Accordingly, the authorities of the country of location, ie home country, of a banking group's head office should take a leading role in crisis management.

The principles adopted by the ECOFIN Council clarify the division of responsibilities between authorities in cross-border financial crises…

The ECOFIN Council also agreed on a number of other crisis management measures, such as organisation of an EU-wide crisis simulation exercise in 2009 (Box 5).

The principles adopted by the ECOFIN Council are important in clarifying the division of responsibilities between authorities in cross-border financial crises. These principles do not, however, provide a sufficient solution to the fundamental problem of crisis management: the misalignment between responsibilities and supervisory powers of authorities safeguarding the stability of national financial systems.

As a result of cross-border bank mergers and acquisitions, subsidiaries or branches of foreign banks have become nationally significant in several countries. If these or their parent banks were to slide into serious problems, it would pose a major threat to financial stability in the countries concerned. Responsibility for the stability of national financial systems lies with national authorities. In contrast, primary responsibility for managing a crisis in a banking group with operations in a number of countries is deemed as falling on the group's home country authorities, a view also confirmed by the principles adopted by the ECOFIN Council. Therefore, the stability-related mandates assigned to the authorities of countries of location, ie host countries, of such a banking group's foreign subsidiaries and branches are not adequately aligned with their responsibilities.

The conflict between responsibilities and powers is most striking when a banking group operates abroad under a branch structure and the branch is nationally significant in its country of location. Branches are not legally independent units, and the host country authorities of these branches have only limited powers and possibilities for supervision and crisis management.

The potential changeover of banks in foreign ownership from a subsidiary into a branch structure would lead to an increasing loss of supervisory and crisis management responsibilities from Finland outside its borders. The Bank of Finland has proposed that EU legislation should strengthen the position of host country authorities in the supervision of

Box 5.

Bank of Finland's participation in national and international crisis simulation exercises

Crisis simulation exercises testing the actions of authorities in fictitious crisis situations that replicate real financial crises play a key role in enhancing authorities' crisis management capabilities. The crisis simulation exercises in which the Bank of Finland has participated in recent years may be classified into four groups based on their scope and coverage: exercises internal to the Bank of Finland, national exercises, Nordic exercises, and exercises internal to the Eurosystem/EU.

Internal exercises are conducted in order to test the effectiveness of crisis management tools available to the Bank of Finland and the functioning of internal cooperation and the flow of information. These exercises focus particularly on key central bank crisis management tasks, including the possibility of extending emergency credit to banks encountering temporary liquidity problems and the assessment of system-wide implications of financial crises.

National crisis simulation exercises test cooperation in crisis management between authorities responsible for the stability of the national financial system – the Bank of Finland, the Financial Supervision Authority (FIN-FSA), the Ministry of Finance, the Insurance Supervisory Authority and the Ministry of Social Affairs and Health. National exercises have the benefit of taking the special features of the Finnish financial system better into account than multinational crisis exercises. National exercises are also conducted with a view to making preparations for the management of purely national financial crises. Likewise, joint crisis simulation exercises have been regularly organised in Finland between the authorities and the financial community in the area of crisis management in exceptional circumstances.

Nordic and Baltic banking markets are widely integrated, and many financial groups are, in terms of market share, important players in a number of Nordic and Baltic countries. These countries' authorities cooperate on a broad scale in crisis management, as agreed for instance in the Memorandum of Understanding (MoU) signed between the Nordic central banks.[1] Regional arrangements were most recently tested in an extensive exercise conducted collectively between Nordic and Baltic authorities in autumn 2007.

The Bank of Finland, as a euro area central bank, also took part in two joint crisis simulation exercises between Eurosystem central banks in 2005 and 2006.[2]

[1] *For more details of the contents of MoUs signed by the Bank of Finland, see the Financial Stability special issue 2006, Box 9.*

[2] *A more detailed illustration of Euro-system and EU crisis simulation exercises is provided in the February 2007 issue of the ECB Monthly Bulletin, p. 81–84.*

The Eurosystem has an important role to play in managing financial market disturbances, especially in safeguarding the functioning of, and providing liquidity for, the money market, as recent occurrences have shown. Eurosystem exercises have largely focused on testing the Eurosystem's key tasks, such as those related to monetary policy operations and the large value payment system TARGET, and coordinating crisis management measures between national central banks and the Eurosystem.

Management of widespread financial crises extending over a number of EU countries requires cooperation between all authorities responsible for safeguarding the stability of financial systems. The exercise organised in 2003 tested the crisis management capabilities of EU central banks and banking supervisors. The 2006 exercise was also attended by representatives from EU finance ministries.

EU-level exercises have laid particular emphasis on the functioning of, and shortcomings in, EU legislation on crisis management and legally non-binding MoUs signed by EU authorities on crisis management. Accordingly, underlying the comprehensive roadmap of measures on development of EU crisis management, as presented by the ECOFIN Council in October, were largely the lessons drawn from the EU's 2006 exercise.

nationally significant branches of foreign banks.[4]

Similarly, the Bank of Finland considers that EU legislation on financial crisis management should be developed with a view to reinforcing the position of host country authorities in crisis management concerning nationally significant foreign bank subsidiaries and branches. There is therefore reason to welcome the ECOFIN Council's invitation to the European Commission and EU member states to find ways of strengthening the role of host country authorities in crisis management. EU-level legislation on financial crisis management should also be developed on a broader scale, as it scarcely exists. The principles and measures adopted by the ECOFIN Council provide a good basis for legislative development.

... but the role of national authorities still need to be reinforced, particularly in supervision and crisis management concerning foreign bank branches.

Specific integration issues from the viewpoint of financial market infrastructure and relevant authorities

For a number of countries, consolidation of infrastructures means both transfer of payment systems and securities trading, clearing and settlement systems into foreign ownership and their physical relocation to another country.

Integration leads to relocation of payment systems away from Finland.

Organisation of oversight and supervision of national systems and cooperation between authorities and market participants is reasonably straightforward, because:

- system operations have been developed to satisfy national needs
- authorities and market participants know each other
- systems are governed by national legislation
- they share a common supervisory culture of scrutinization.[5]

Over the coming years, the systems will be processing payments of a number of countries and involving participants from various countries. In such an environment, services will not necessarily fully meet national requirements, nor will the governance of the systems be entirely in the hands of a specific national user group. Authorities' powers of scrutiny with respect to foreign systems are not the same as their powers with respect to national ones. A system is typically governed by the laws of the country of its location, which prevents other countries from directly influencing the system through their respective national legislations.

In order to maintain a sufficient level of service and competitiveness, market participants should be able to ensure equitable and efficient governance models for systems they use. Based on national or EU legislation, authorities typically perform functions such as ascertaining or contributing to the reliability and efficiency of systems and ensuring the soundness of economic activity and economic agents, also in exceptional cir-

[4] See Bank of Finland Bulletin, 2/2007, p. 25–26.

[5] The central bank's scrutinization function focusing on financial market infrastructure is called oversight. It concentrates on reliability and efficiency considerations of systems as a whole, involving participation in infrastructure development. Oversight tools include monitoring and analysis of system operations, assessment of systems against widely accepted core oversight principles, evaluation of developments and definition of policy objectives. Supervision, in turn, refers to institution-specific prudential supervision by the Financial Supervision Authority, aimed at ensuring that regulatory goals are implemented in practice.

cumstances. In order to achieve these objectives, authorities are required to respond to changes in market structures, for instance, by developing international cooperation between authorities and promoting the use of jointly agreed standards and assessment methods. The quantitative methods of oversight (Box 6) should also be upgraded in support of decision-making.

Oversight development and challenges

New to the scope of oversight exercised by the Bank of Finland are retail payment systems, important for Finland, which will go live along with the Single Euro Payments Area (SEPA). SEPA card products will also be an area covered by central bank cooperation. Otherwise, oversight priorities have remained the same as in 2006.[6] According to the publication by the Federation of Finnish Financial Services,[7] current payment systems will be abandoned after a yet undefined transitional period and European solutions will be used instead.[8] As consolidation of infrastructures has an increasingly important role to play in the international development of securities trading, clearing and settlement systems, their Finnish operations are also under pressure to migrate abroad for cost and efficiency reasons. Consequently, oversight links are likely to change, becoming indirect in many respects.

Making payments and trading in securities are functions belonging to basic societal structures. With internationalisation moving ahead, there is a need to ensure continued chances of safeguarding at the national level the reliability and efficiency of the country's infrastructure and crisis management capabilities.

Euro area central banks have already created a reasonably well-functioning oversight process.[9] Cross-border relocation of the Finnish basic infrastructure will, however, lead to a need to enhance this process with a view to ensuring access to information and the possibilities of exercising influence. With regard to systems processing Finnish payments, for example, a timely reporting procedure concerning system failures and their causes and remedies should be put in place. The Bank of Finland must be able to exert sufficient influence on the definition of criticality of systems and the oversight requirements placed on them and participate in ongoing oversight.

Access to information and the possibilities of exercising influence must be ensured in Eurosystem oversight.

SWIFT, the global messaging service provider, can be regarded as a noteworthy, special case. Foreign operations in payment transmission and securities trading are already largely based on SWIFT, but with ongoing harmonisation and consolidation, SWIFT will emerge as the main messaging channel for Finnish financial market participants. Oversight of SWIFT is

6 Financial Stability special issue 2006 (Chart 33).

7 Realisation of the Single Euro Payments Area in Finland, SEPA Implementation and Migration Plan in Finland (16 May 2007).

8 Eg SEEBACH arrangement to be implemented with EBA.

9 The 'lead overseer' monitors, analyses and assesses the systems against harmonised oversight criteria. Such oversight assessments are dealt with jointly within the European Central Bank's committee framework in order to ensure consistent interpretations and thus eg a competitive level playing field.

Box 6.

The deepening of oversight is important for European central banks

Extensive changes in the financial markets call for the deepening of central banks' oversight activities by analyses and forward-looking assessments. As a result of financial market integration, systemically important infrastructures are increasingly international. This will underline the importance of cooperative oversight and coordination of measures between countries in future.[1]

The Bank of Finland has surveyed European central banks' views on quantitative tools for oversight. These include the modelling of systems, simulation of disruptions, as well as risk and efficiency analyses.

The survey examined the importance of quantitative analyses made from different perspectives and differing from traditional oversight assessments. The scope of the survey was limited to studies, which are primarily based on transaction data and information about system participants in payment and settlement systems. A total of 21 central banks in the European Union, including all the euro area central banks, responded to the survey.

The results of the survey show that the respondents considered stress tests of payment and settlement systems to be important risk analyses for central banks' oversight activities. Stress tests examine the impact that severe but plausible disruptions could have on the systems' operation and on system participants, ie banks and other financial institutions. As to efficiency analyses, the most important one was considered to be the analysis of the impact of new systems or structures on the liquidity need of the participants. The averages for the responses on the analyses described in the survey are shown in the table below.

Both for risk and efficiency analyses, most respondents considered it suitable that the analyses are repeated annually or when significant changes are made to the systems. The responses show that the European central banks are also very interested in a cross-country comparison of the results of risk and efficiency analyses on payment systems.

The payment and settlement system simulator developed by the Bank of Finland is one of the tools applicable for quantitative oversight analysis. The responses to the survey will be used in developing the simulator. The analyses will ultimately support the improvement of the reliability and efficiency of services provided to customers by real systems.

Information on the simulator and several analyses made on it is available on the Bank of Finland's website (http://www.bof.fi/sc/bof-pss).

[1] *See the article by Päivi Heikkinen on the outlook for oversight "Oversight of financial market infrastructure faces new challenges". Bank of Finland Bulletin 2/2006.*

Table.

Relevance of selected quantitative analyses to European central banks' oversight function, on a scale of 1 to 5 (1= not important… 5= highly important)

Risk analyses	***Average***
Stress testing of internal operational failures in systemically important payment systems	*4.14*
Stress testing of external failures in systemically important payment systems	*4.14*
Stress testing of internal operational failures in securities settlement systems	*3.71*
Network analysis of contagion between market participants in stress scenarios	*3.70*
Stress testing of operational failures in systemically important retail payment systems	*3.67*
Network analysis of transaction and liquidity flows and identification of bottlenecks or critical nodes	*3.55*
Stress testing of linkages between securities settlement systems	*3.05*
Efficiency analyses	***Average***
Impact of new systems or structures (eg TARGET2) on the liquidity needs of the participants	*4.10*
Level of queued payments with different liquidity levels	*3.90*
Analysis of processing times with different liquidity levels	*3.52*

Source: Bank of Finland.

currently exercised by a working group composed of the G10 central banks, with the central bank of SWIFT's country of location, Belgium, acting as lead overseer. The lead overseer and the ECB report regularly, albeit infrequently, on SWIFT-related matters to non-G10 central banks. Given the importance of this service, the possibilities of non-G10 central banks of exerting influence need to be safeguarded.

Supervisory development and challenges

On the basis of national legislation, supervision in Finland focuses on both specific institutions (eg banks) and certain infrastructures (such as book entry system and related settlement systems). When migrating abroad, such systems will move outside the direct supervision of the Financial Supervision Authority (FIN-FSA), and also outside the direct oversight of the Bank of Finland. The supervisor will retain the possibility of having access to desired information on systems and obtaining reports indirectly from its supervised entities. The FIN-FSA may also receive information from the home country supervisor of the system, but this, and the accuracy and timeliness of such information, will largely depend on how the division of responsibilities and cooperation between home and host country supervisors have evolved. The FIN-FSA may issue guidelines and regulations to its supervised entities with respect to systems they use, but in practice supervised entities only have limited chances of influencing foreign systems. If a system operator fails to meet the wishes based on regulations of a single system user's supervisor, the outcome may be a borderline case difficult to resolve. Is it realistic that, in the face of such a situation, the supervisor forbids the institution from using the system concerned, at the risk of the prohibition leading to significant costs and a non-level playing field?

Supervisors need to agree on a common basis for infrastructure supervision.

The fundamental problem is that supervision of financial markets is not convergent in respect of all infrastructures, contrary to the case of EU-wide banking supervision. Current requirements are national, which may give rise to above problems and regulatory arbitrage. Therefore, it is to be hoped that supervisors' EU-level cooperation groups will develop coherent standards for infrastructure supervision, and adequate information sharing processes and channels of exercising influence between supervisors. Currently, this would be of particular relevance to securities settlement systems, which have opened up for competition in line with the markets' self-regulatory approach supported by the European Commission[10] but which lack supervisory convergence. A combination of free competition, regulation that varies by country and incoherent supervision may lead to a non-level playing field among market participants.

Business continuity and crisis management

Cross-border relocation of infrastructures also poses challenges to safeguarding business continuity and crisis

[10] European code of conduct for clearing and settlement, 7 November 2006.

management.[11] As systems are integrated, their disturbances will have wider repercussions, thereby possibly increasing the danger of systemic risk. Consolidation of communication links, in turn, increases the importance of well-functioning contingency arrangements of service providers. The Finnish Central Securities Depository (APK) with its parent companies and the Nordic exchange operator OMX, for instance, outsourced their network communications to the same, fairly new operator in Finland, which has no network solution of its own in Finland. Such an operator providing value-added services is largely out of reach of financial market scrutiny by the relevant authorities. Authorities and Finnish market participants have no such chances of exerting influence on arrangements of foreign service providers as they do in connection with national arrangements. This further highlights the need to establish sufficient requirements for business continuity planning and crisis management procedures, together with well-functioning cooperation processes between authorities and market participants alike. The Eurosystem has a key role to play in meeting these challenges.

One measure that contributes to reaching consistent regulatory solutions is the European Commission's proposal for a directive on critical infrastructures.[12] According to the proposal, European critical infrastructures – critical at least from the viewpoint of two countries – would be identified and designated, and such infrastructures would be required to establish plans for operational security, for instance, and would be subject to assessments by member states. On the basis of assessments by member states, the Commission would examine whether additional regulation of critical infrastructures is required.

The proposal is worth supporting, albeit not entirely unproblematic. It is very general in nature, leaving scope for highly different levels of operational security plans in terms of their contents, assessments and procedures for ongoing information sharing. Reaching an equitable outcome requires continuous cooperation between competent authorities of member states. Questions regarding competencies between the European Commission, the EU Council and the Eurosystem also need to be resolved. The EU Treaty defines oversight of financial system infrastructure, including related contingency planning and crisis management, as areas of oversight incumbent on the Eurosystem. Conflicting official regulations must be avoided.

[11] Safeguarding business continuity means that infrastructure service level and risk management remain as normal as possible irrespective of a problem situation occurring. In a crisis situation, in turn, efforts will be made to ensure a certain minimum level of service, which guarantees basic operations in the economy.

[12] Proposal for a Directive of the Council on the identification and designation of European Critical Infrastructure and the assessment of the need to improve their protection, Brussels 12.12.2006, COM(2006) 787 final. See also the ECOFIN Council conclusions on enhancing cooperation in crisis management, 9 October 2007.

Appendix 1.

Infrastructure critical for the Finnish financial market

System	*Description*	*Oversight responsibility*	*Assessment*
TARGET	*Eurosystem's RTGS payment system*	*Eurosystem*	*Assessment in 2004, in accordance with the Core Principles for systemically important payment systems approved by the Eurosystem; system fulfils requirements. System will be closed down in 2008 after introduction of TARGET2.*
BoF-RTGS	*Bank of Finland's TARGET component*	*Bank of Finland oversight; based on common principles agreed within the Eurosystem*	*Assessment in 2004, in accordance with the Core Principles; system fulfils requirements. Availability good (circa 99.9%), despite minor disruptions. The incidents have not jeopardised payment transfers or financial market stability. System will be closed down in 2008 after introduction of TARGET2.*
POPS	*Banks' online system for express transfers; domestic large-value payment system; funds are transferred via BoF-RTGS.*	*Bank of Finland oversight*	*Assessment in 2004, in accordance with the Core Principles; system fulfils requirements. Operation stable; low number of payments transferred. Performance reliable.*
PMJ	*Domestic retail payment transfer system; funds are transferred via BoF-RTGS.*	*Bank of Finland oversight*	*Assessment in 2004, in accordance with the Core Principles; system fulfils requirements. Critical system for domestic retail payments. Performance stable, no significant disruptions.*
EBA Euro1	*EBA Clearing's transfer system for euro-denominated large-value payments.*	*ECB (lead overseer), Eurosystem*	*Assessment in 2001, in accordance with the Core Principles. Assessed to be a systemically important large-value payment system. Operation reliable, no significant disruptions.*
EBA STEP2	*Pan-European automated clearing house (PEACH) for euro-denominated bulk payments.*	*ECB (lead overseer), Eurosystem*	*Considered a prominently important retail payment system. Operation reliable, no significant disruptions. In future, will be a systematically important retail payment system for Finland.*
CLS	*A significant settlement system for foreign exchange transactions that enables PvP settlement to eliminate settlement risk. In operation since 2002.*	*US Federal Reserve (lead overseer), ECB (overseer of settlements in euro), G10*	*Security and efficiency of the system is very important; has an effect on euro area and global stability. Operation reliable, despite some minor disruptions. The ECB reports to the Eurosystem on the results of the oversight activities (see the ECB's Financial Stability Reviews).*
TARGET2	*New generation of TARGET; technically centralised RTGS system based on a single shared platform (see TARGET).*	*ECB (lead overseer), Eurosystem*	*Preliminary assessment in accordance with the Core Principles in autumn/winter 2006, and the first comprehensive assessment of the future system in summer 2007. Assessment hampered by ongoing preparations. Open questions remain, however no reason to doubt changeover to the system.*
Bank of Finland - TARGET2 system	*Bank of Finland project for migration to TARGET2.*	*Bank of Finland oversight*	*Migration has progressed in a controlled manner. Preparations are under way for Finland to migrate to TARGET2 on 18 February 2008, in the second country widow. Testing continues.*
APK	*Finnish Central Securities Depository; processes payments via BoF-RTGS. Subsidiary of the Swedish Central Securities Depository.*	*Bank of Finland oversight, oversight cooperation with the Swedish central bank*	*The settlement system for debt securities (Ramses) and its collateral management services have been assessed based on Eurosystem user standards; system fulfilled requirements in 2006. The predecessor of the current settlement system for equities trades (HEXClear) was reviewed by the IMF during Finnish FSAP. Stress tests have been performed by the Bank of Finland on both the systems, using the BoF-PSS2 simulator. Operation reliable.*
Information networks			
Pankkiverkko3	*Domestic closed interbank network*	*Bank of Finland oversight*	*Subject to oversight monitoring. Operation reliable.*
SWIFT	*Most significant provider of messaging services to the financial markets; an entity managed by its members. SWIFT's messaging services are widely used in payment transfers and the settlement of securities trades.*	*Oversight group headed by the central bank of Belgium (see its Financial Stability Review, June 2007, pp. 95–101)*	*SWIFT has been considered a critical provider of services for financial market infrastructure. To support its work, the SWIFT Oversight Group has developed five general principles that will be used for reviewing primarily SWIFT's operational risk management procedures. The framework was introduced in 2007. SWIFT will increase the reliability of its operations by improving its contingency arrangements in Europe. The new data-processing centre will also solve some of the data security problems.*
Automatia's network of ATMs	*Network significant for the supply of cash to individual citizens; administered by Automatia.*	*Bank of Finland's Currency Department and oversight function*	*Subject to oversight monitoring. Operation reliable.*

Appendix 2.

Assessment of the Bank of Finland Bulletin special 'Financial Stability' edition

In line with its established strategies, the Bank of Finland operates in a transparent, high quality and cost-efficient manner. Accordingly, the Bank's financial stability publication has to be timely, reliable and cover the financial system comprehensively. These strategic positions provide the framework for the financial stability publication, and which are outlined as concrete objectives in the report's preface.

The Bank of Finland requested two esteemed experts in the field, Jan Brockmeijer, Division Director at the De Nederlandsche Bank and Peter Johansson, Member of the Sampo Group Executive Committee, review the Bank of Finland's Financial Stability Report and propose how it could be developed (Bank of Finland Bulletin, Financial Stability special issue, 2006).

Both of the reviewers considered the Bank's Stability Report to contain excellent analyses. The report was also considered to be well composed, informative and comprehensive while meeting a broader audience. The main areas of criticism were that the text was, in many places, too descriptive and long making the bigger risks and threats to stability difficult to visualise. According to the reviewers, the Report meets the objective laid out in the preface well. The Financial Stability Report informs financial sector agents, other authorities and the public at large of the risk and threats to stability that the financial system faces as well as reporting on the various measures that have been implemented to prevent them. It also adds to the understanding of the most recent and increasingly challenging risk factors affecting the financial sector as well as promotes discussion on stability within the financial system. The report is also used as a means of raising awareness of the need to develop the financial system and increase its effectiveness. The Report also serves as one of the Bank's accountability tools.

In their review, the experts paid attention to the preface, in which financial market stability was defined slightly differently to the definitions applied by many other central banks. According to the Bank of Finland's definition, the financial system is stable and reliable when it is capable of undertaking its core functions smoothly. Also, the risk-bearing capacity of the key financial institutions and financial market infrastructure, on top of the general level of confidence in both the institutions and infrastructure, have to be sufficiently able to endure major disruptions to the operating environment. Generally, definitions of financial market stability do not mention the importance of maintaining public confidence in the system. On the other hand, there was no mention, in the Bank of Finland's definition, of the effects of financial market stability on the real economy, even though these effects could well be taken to belong to the definition.

The reviewers put forward many suggestions for the development of the financial stability publication. However, no proposals were made regarding the structure of the report. Whereas the reviewers felt that the summary could bring out the changes in stability and the key threats to stability more clearly than it has to date. From the point of view of information on the stability analysis, this point of view is highly understandable, while posing its own challenges.

When reviewing the report's operating environment section, they felt that those issues which form key risk factors affecting Finland's financial market stability could be better highlighted. In regional terms, emphasis could be placed more on the areas critical to Finland's financial system operators – the Nordic region and the Baltic countries. Similarly, they recommended that less emphasis could be placed on describing cyclical macroeconomic developments. They felt the need for more precise analysis regarding the corporate and household situation and concentration on the risks that have the greatest impact in terms of financial system stability. The description of the financial markets' operating environment is, all in all, the most essential part of the report as it establishes the foundation and frames of reference for the overall analysis.

The possible impact of the risk factors identified in the operating environment section are actually evaluated in the section on the banking and insurance sector. It was hoped that the latter section could be more forward-looking and that the text would be tighter. Some of the features particular to the Finnish financial market are the cross-sector nature of financial operations and the significance of foreign ownership within the market. The reviewers considered that one of the advantages of the Financial Stability publication was its inclusion of the insurance sector. However, they also felt that a more analytical approach could have been taken to the insurance sector. This could be achieved through, for example, extending the report on stress testing in the publication to also cover the insurance sector. It was considered essential that, in terms of the Finnish financial markets' stability, any risks and weaknesses that may be considered crossing operational boundaries need to be analysed. The reviewers also hoped that stress tests would be better linked to the risks that were identified in the report's Operating environment section as being crucial. Additionally, it was suggested that the analysis could be complemented by examining the development of the largest financial groups operating in Finland, separately.

The reviewers considered that the fairly heavy emphasis placed on the Financial infrastructure section was appropriate in such a publication on financial stability. After all, the financial markets are unable to operate stably without a reliable infrastructure. Also, the Bank of Finland's task of participating in the development of the financial markets was brought out in the report's Infrastructure section. Despite that, the reviewers felt that the section was too broad in its scope and over-descriptive. The report could better emphasise the infrastructure itself and the risk analyses of the development projects, for instance through the stress tests on the payment and settlement systems.

The Financial Stability Report's Financial system policy section analysed the financial markets' regulatory framework issues at the global as well as European level, in terms of the Finnish financial system. This was felt to be a sound addition to the information provided on the subject and the section was a natural choice in which to develop the points brought up as possible policy or operational recommendations. Both reviewers felt this was a high quality section of the report and well-composed, if a little too broad and abstract in nature. They recommend that more powerful emphasis be placed on the Bank of Finland's perspective by bringing out the key problem areas. One of the important themes mentioned is the comprehensive review of capital adequacy requirements placed on banks and insurance companies (Basel II and Solvency II).

Undertaking stress tests on the risk-bearing capacity of the financial system is one of the central areas of stability analysis. The review also presented many suggestions and opinions regarding stress test practices and the publication of the results achieved from the tests. In recent years, stress tests undertaken by central banks and other authorities have become much more sophisticated in terms of both methodology and source material. The Bank of Finland's objectives as outlined in their strategies – reliability, timeliness and comprehensiveness – are accentuated in undertaking stress tests. This is a question of challenging and determined development work.

Development of the Bank of Finland's stability analysis and publication, all things considered, requires determination and is affected by changes in the financial markets and development trends in Finland. The opinions given by the reviewers on the Financial Stability report have been highly valuable in the development process put into this publication.

Organisation of the Bank of Finland

4 May 2007

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Publications

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