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Bank of Finland Bulletin 2 • 2011
Vol. 85
Published 17 June 2011
The Bank of Finland Bulletin is published
five times of year.

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by the Bank of Finland Language and
Publication Services

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Printed
Edita Prima Oy, Helsinki 2011

The contents of the Bulletin may be freely
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requested.

ISSN-L 1796-539X (print)
ISSN 1796-5578 (online)

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Cover picture depicts the national motif on the San Marino's
5 cent coin: The First Tower (Guaita) of San Marino.

Preface

Soundly functioning financial and payment systems are essential to the entire national economy. A stable financial system is capable of operating beyond reproach, of handling its basic tasks, such as the undisturbed transmission of finance and payments, pricing of financial instruments and efficient distribution of risk. Furthermore, the risk-bearing capacity of the financial market agents and public confidence in financial institutions and the financial markets must be sufficient to endure even large disruptions in the operating environment.

One of the tasks of the Bank of Finland is to promote the stability, reliability and efficiency of the Finnish financial system and to participate in its development. The Bank's efforts are integrated with the objectives of the European System of Central Banks and also require close cooperation with other authorities.

The Bank of Finland's task is to evaluate the stability of the financial system, as a whole. The Bank evaluates the most significant potential threats to stability in the operating environment of financial institutions and financial system, the state of the principal borrower sectors, the risk-bearing capacity of financial market participants and the reliability and efficiency of the underlying payment and settlement systems.

The Financial Stability Report is intended for all financial market agents, other authorities and the public to provide information and promote discussion on relevant topics. This serves the purpose of ensuring that these parties can take financial market conditions and stability outlook into account in their operations.

The Bank of Finland has published its assessment of financial stability since 1998. Information presented in this report is based on data available on 2 May 2011.

Summary

The most significant threats to the stability of the Finnish financial system still derive from outside our borders. Within Finland, the financial system is currently in a stable condition. In the years ahead, besides the developments in the Finnish economy, the stability of the Finnish financial sector will also be particularly affected by conditions both in Europe and around the world.

The condition of European banks is currently characterised by two distinct trends. The capital adequacy and profitability of healthy banks are strong, and these banks can acquire market funding with relatively little difficulty. In contrast, weak banks have thin capital buffers, their sovereign risks are typically large and they find it very expensive or even impossible to acquire market funding in its various forms. In the crisis countries, sovereign risk is making it harder even for well-capitalised banks to acquire funds.

The funding gap of Finnish banks, ie the difference between loans to and deposits from the public, is large when compared with those of many other European countries. Banks cover their funding gap with market funding, much of which comes from abroad. The terms of market funding therefore influence the average funding costs of Finnish banks, and hence the price of the loans they grant to their customers. Admittedly, there are a number of factors that make it easier for Finnish banks to acquire funding. These include the strong demand for their covered bond issues. However, uncertainty over the quality of European banks' balance sheets and concerns that the problems

could spread more widely through the financial system could, in a worst-case scenario, also make it harder for banks currently considered secure to acquire funding.

In Finland, the rising trend in house prices has flattened out since spring 2010. The moderate rise in market interest rates has helped restore a more balanced position on the housing market. Even so, the relative price of housing is still higher than the average for the past decade.

From the perspective of macro-stability, the trend of recent years in household debt has displayed worrying features. The proportion of highly indebted households grew rapidly throughout the first post-millennium decade. Continued growth in household debt will undermine the ability of both households and the economy to adapt to economic disturbances.

Changes in domestic payment and settlement systems have been reflected for customers as an increased frequency of disruptions, which have not, however, endangered the operations of the system as a whole. The disruptions have, however, revealed how difficult it is to reform complex systems. The flawless performance of payment and settlement systems requires common operating models and rules to which all participants are committed. In addition to the management of counterparty-specific risks, it is also essential to take care of risk management at the systemic level.

There has been widespread concern over the functionality of Finland's domestic capital market. Corporate

finance has become more narrowly based as a result of the international financial crisis. Joint action by market participants and public authorities is necessary to ensure that the market infrastructure formed by trading venues and the Finnish Central Securities Depository supports the viability of the capital market.

The Finnish financial system continued in a stable condition throughout the financial crisis and has, as a whole, been developing in an even more stable direction since autumn 2010 (see Box 1). However, the global financial and economic crisis is not yet over. The most significant threats to stability over the next 12 months are:

1) The sovereign debt crisis expands and deepens. This would significantly hamper Finland's and other European countries' recovery from the crisis and increase the funding costs of economic agents in Finland.

2) The restoration of health in the European banking sector is postponed, or the steps taken prove insufficient. Due to the strong links between banks, there could once again be general problems in bank funding. In view of the interlinkage between the problems of the banks and the sovereign debt crisis, this would also cause a worsening of the debt crisis.

3) The accumulation of debt by Finnish households and the pace of rise in housing prices accelerate once again, increasing the vulnerability of households and the economy as a whole in the event of a rise in interest rates and unexpected shocks in the economy.

The ability of the financial system to withstand shocks should be systematically reinforced in order to reduce the probability of financial crises and their side-effects. The Bank of Finland particularly considers the following actions to be essential:

1) Banks in the EU should reinforce their balance sheets to enable them to support a recovery in economic growth. European stress tests should be used as the basis for determined action to strengthen the capital base of weak but viable banks, primarily through private-sector solutions. Non-viable banks should be restructured or their activities wound down in a controlled manner.

2) The growth in the number of heavily indebted households must be moderated. Households need to determine the size of their loans according to their ability to service these loans and prepare for the possibility of interest rates that are higher than the present rates. Banks must not grant loans that are excessive in terms of the collateral and debt-servicing capacity of the borrowing household.

3) The long-term sustainability of Finland's general government finances must be secured. The recent debt crisis has demonstrated the sort of systemic risks that are associated with excessive public debt.

4) Finnish authorities must be equipped with adequate powers to take macroprudential policy measures to prevent the realisation of systemic risks that threaten the stability of the national financial system. Such measures would seek to eg put a brake

on excessive household and corporate indebtedness and excessive rises in asset prices.

5) The EU should be equipped with a common crisis management framework for financial institutions in line with the guidelines proposed by the Commission. We should also ensure Finnish authorities are equipped with strong enough powers to intervene at a sufficiently early stage in the activities of financial institutions that are experiencing difficulties and, where necessary, restructure or terminate their operations.

Helsinki, 10 May 2011

A handwritten signature in black ink, appearing to read 'Pentti Hakkarainen', written in a cursive style.

Pentti Hakkarainen
Deputy Governor of the Bank of
Finland

Stability map presentation of the financial stability situation in Finland

This Box discusses developments in the key indicators underlying stability in the Finnish financial system over the past one and a half years, in light of the Chart below.

The further the pentagon is from the origin, the weaker the macroeconomic outlook and the higher the risks and stress. The blue zone portrays the two middle quarters of the indicator's previous values.¹

The upper angle of the Chart illustrates the macroeconomic situation in Finland. The score for the macroeconomic dimension is derived from the Bank of Finland's GDP growth forecasts for the present and

following year. The financial crisis hit the Finnish macroeconomy hard in 2009. However, the economy has recovered rapidly, and economic growth forecasts have further improved from December 2010.²

The two right-hand side angles of the Chart illustrate mounting threats to stability. The indicator for housing prices is calculated as the ratio of housing prices to wage and salary earnings and the measure of indebtedness is the ratio of private sector debt to GDP. Both indicators are calculated as deviations from the long-term trend.

The rise in housing prices accelerated from 2009 to 2010 but has subsequently levelled off.

Housing prices have not deviated from the trend in the period under review.³

Compared with the trend, indebtedness is still considerable but, as a result of GDP growth and a decline in corporate foreign debt, private sector indebtedness has decreased from December 2010.⁴

The two left-hand side angles of the Chart denote actual stress in financial markets. Risk premia reflect the availability of funding. The underlying measure is represented by the interest rate spread between companies with credit rating AAA and credit rating BBB. Risk premia returned to normal levels in 2010 and have not changed markedly in spring 2011.⁵

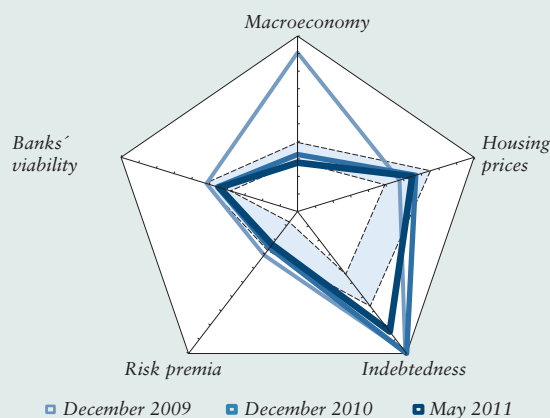
The upper left-hand side point of the Chart illustrates banks' viability, which is measured by the Bank of Finland's stress index for the banking sector. The Finnish banking sector has been stable over the whole period under review. The sector's stress level was relatively low also in the crisis year 2009.⁶

¹ For details of the indicators and technical design of the chart, see Kaukoranta, I. (2010) *Rahoitusmarkkinoiden vakauden visualisointi (Visualisation of financial stability)*. BoF Online 8/2010, and the special issue of the Bank of Finland Bulletin, *Financial stability 2010*.

² For details of the macroeconomic situation in Finland, see the section *Operating environment* (p. 6) and the special issue of the Bank of Finland Bulletin, *Economic outlook 2/2010*.

Chart.

Financial stability map for Finland



Sources: NASDAQ OMX Helsinki, banks, Statistics Finland and Bank of Finland.

³ For details of price developments in Finnish housing markets, see the section *Operating environment* (pp. 13–14).

⁴ For details of household and corporate indebtedness, see the section *Operating environment* (pp. 10–15).

⁵ For details of the availability of funding to Finnish companies, see the section *Operating environment* (pp. 14–16).

⁶ For details of the situation of the Finnish banking sector, see the section *Banking and insurance sector* (pp. 17–25).

Operating environment

The debt crisis of a number of peripheral European countries has remained serious. An orderly management of the debt crisis is a prerequisite for stable economic development in Europe. Confidence in the operational ability of the international banking system has not been fully restored. Divergence in the banking system and hidden risks add to the vulnerability of the European financial system and contribute to aggravating the debt crisis. In Finland, the low level of interest rates and the maintenance of confidence have mitigated the effects of the recession and the financial crisis, but the simultaneous incurrence of debt by households and the accumulation of the related risks have continued. The domestic corporate sector is less indebted than the global average.

World economic growth is forecast to continue at a fairly brisk, albeit highly divergent, pace. The focus of growth is still on the emerging economies. In Europe, economic growth continues to recover, but differences in the pace of

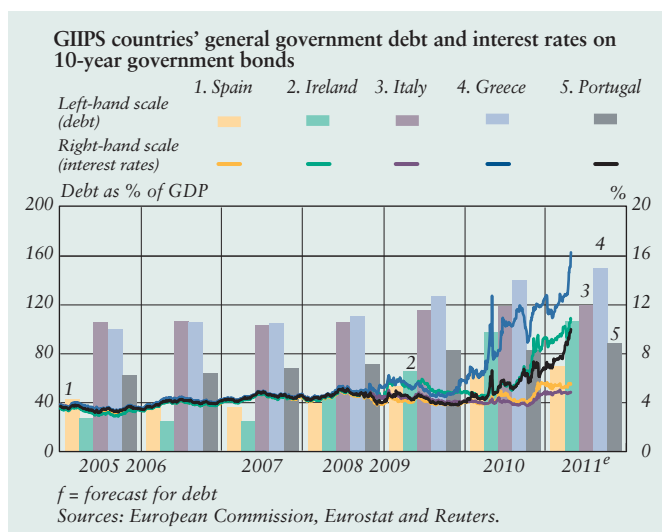
growth maintain the debt crisis of the peripheral European countries. An easing off of the debt crisis is a prerequisite for stable economic development in Europe, as sovereign risks have exceptionally wide contagion and transmission mechanisms.

The focus of recent attention has been on the debt problems of certain European states (Chart 1), but the sustainability of government finances also presents problems elsewhere. In its latest stability report, the International Monetary Fund (IMF) drew attention to the size of government debt in the United States and Japan and the challenges posed by an orderly management of growing debt levels if access to finance were to become increasingly difficult or its price were to rise.

Rising world market prices for energy have boosted inflation and increased inflation expectations in all main economic regions. Although price rises are anticipated to remain temporary, the emergence of domestically-driven inflationary pressures would hamper the formulation of monetary policy, notably in regions of slow growth.

In advanced economies, interest rates have remained very low over an extended period of time, thereby lending support to economic recovery. The long-sustained, low level of interest rates, however, has not only had stabilising effects on the economy. The risks from low interest rates relate to the search for yield on the part of financial institutions and investors, which may distort the pricing of risks and lead to excessive risk-taking and

Chart 1.



overly strong increases in asset prices. A continued, very low level of interest rates over an extended period is therefore not desirable from the stability point of view.

Investors' search for yield has diverted capital flows to rapidly growing emerging economies, where fears of an economic overheating have strengthened. The bulk of foreign investment has been channelled via new issues to equity and bond markets. In many of these countries, there are signs of a clear increase in indebtedness.

In advanced economies, low interest rates are assumed to have delayed the unravelling of the debt problem. Debt ratios have remained high in several countries (Chart 2). A strong elevation of interest rates would increase both debt-servicing costs for borrowers (Chart 3) and reduce the value of interest-rate investments made in an environment of low interest rates.

Regulatory reforms initiated after the financial crisis present a challenge of their own for stable financial market developments. Regulatory projects are promoted simultaneously in several different areas, and their combined effect may reveal unexpected consequences. In order for the reforms to foster financial stability and support financial intermediation, it is of particular concern to lay emphasis on maintaining an overview of the reform agenda.

European banks experience highly divergent developments

Improving banks' operational ability and mitigating the risks they cause to

Chart 2.

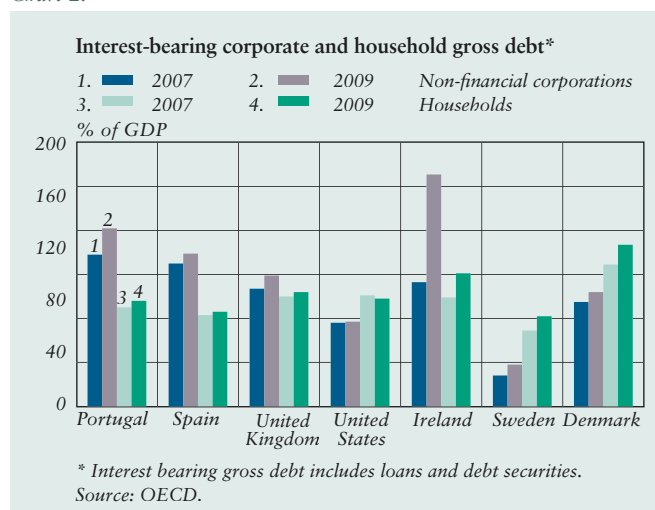
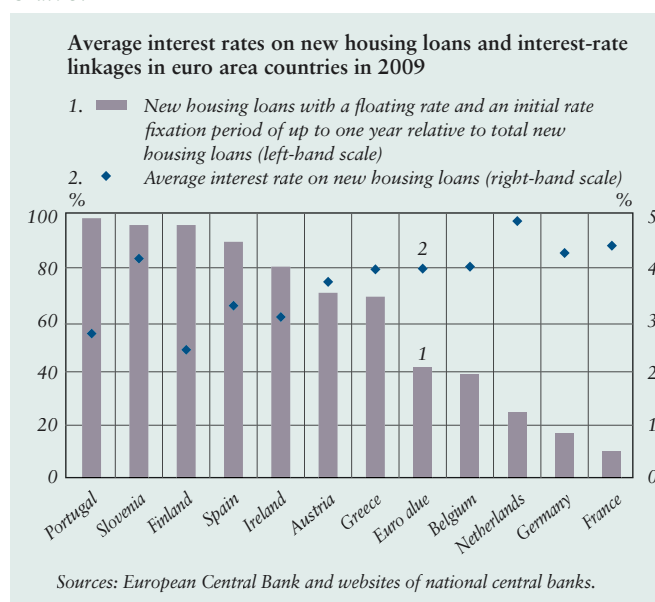


Chart 3.



government finances take centre stage in alleviating the European debt crisis. Meanwhile, the availability and cost of funding for banks are affected by the estimated sustainability of public finances in the banks' home countries and the risks incurred by the banks for their investments in government debt instruments. During the financial crisis,

many governments provided guarantees for debt securities issued by banks. Upon expiry of the guarantees, refinancing may become more expensive, especially in an unstable market situation.

There is alarming divergence in the criteria and availability of finance for European banks, although the functioning of the debt and interbank money markets has gradually returned to normal. Banks in crisis-ridden countries encounter difficulties in obtaining long-term funding in particular at a reasonable price. Weak banks continue to be dependent on short-term funds granted by central banks. Uncertainty about banks' risks and profitability makes it difficult for governments to exit from banking-sector support measures.¹ Financing difficulties also impair banks' ability to

¹ Box 2 examines how uncertainty perceived by investors can paralyse market functioning.

grant credit to the private sector. EU-wide stress tests are expected to increase transparency in banks' financial soundness and need of capital support (see Box 4).

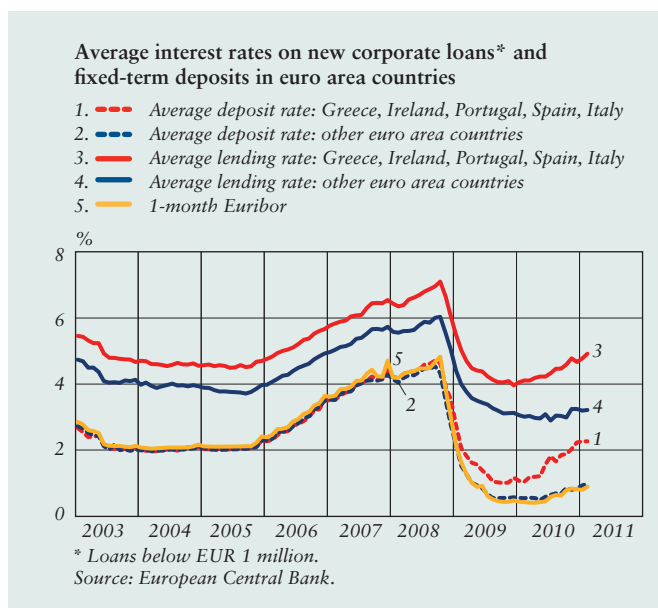
Changes in the financial environment add to challenges in bank funding

Stronger capital positions would help reduce problem banks' financing costs, thereby improving their profitability. Some banks have therefore started to prepare for future Basel III requirements by acquiring more capital and longer-term financing. Even so, capital buffers are small in many European banks. Many banks facing difficulties are both highly indebted and exposed to sovereign risks. In addition, they have typically financed the gap between lending and retail deposits by short-term market funding.

Competition for the sources of finance has in some countries raised interest rates on deposits offered to the public (Chart 4). Banks also need to adjust to potential changes in the supply of finance, for example, as regards dollar-denominated markets and investment policies of insurance companies.

The supply of funding sought by banks in the market is held back, for example, by uncertainty associated with the envisaged regulatory reforms about the creditor position in banks' potential future debt restructuring processes. The possible weakening of the position of holders of unsecured debt securities will help divert investment flows towards instruments deemed as being safe, such

Chart 4.



Uncertainty may freeze trading on the financial market

Events in the financial crisis have shown how quickly investors may alter their willingness to take risk and how detrimental an impact distrust among market participants can have on market functioning.

Investors must account for two kinds of contingencies in their decision making. Contingencies where the likelihood of possible outcome is known (eg throwing a dice) are referred to as risk, whereas contingencies where the probabilities are not known are referred to as uncertainty.

Traditional financial-theory models generally only account for risk, even though as early as 1920s Knight¹ proposed that risk and uncertainty affect decision-making in different ways, and later Ellsberg² confirmed this proposal empirically.

Since the latest financial crisis, however, interest in the impact of uncertainty on investor decision-making has increased exponentially, and a great deal of new theoretical literature has been published. A well rounded introduction to the topic is provided by Epstein and Schneider.³

One of the most interesting recent studies investigates the

¹ Knight, F. (1921) *Risk, Uncertainty and Profit*. Houghton-Mifflin, Boston, USA.

² Ellsberg, D. (1961) *Risk, Ambiguity and the Savage Axioms*. *The Quarterly Journal of Economics* 75, p. 643–669.

³ Epstein, L. and M. Schneider (2010) *Ambiguity and Asset Markets*. *Annual Review of Financial Economics* 2, p. 315–346.

impact of uncertainty on market liquidity. Traditional financial theory presupposes that investors always act either as buyers or sellers on the market. However, Easley and O'Hara⁴ suggest that rising uncertainty may result in investors not being prepared to purchase nor sell a security.

Let us assume that an investor receives a purchase offer that they reject because they consider the value of the security in question to be higher than the offer. Normally, in such a case the investor would be prepared to purchase more of the said security that they consider is underpriced. If, however, the investor is unsure of the accuracy of their risk and yield estimate, they are not willing to neither sell nor increase their investment.

Easley and O'Hara suggest that rapidly rising uncertainty may explain the sudden freezing of the collateralised debt obligations and US housing markets in the financial crisis. During the European debt crisis, there have been times when liquidity has vanished completely from government bond markets, an example being the days immediately following the publication of the Irish support package in December 2010.

Theoretical financial literature discussing the impact of uncertainty offers explanations

⁴ Easley, D. and O'Hara, M. (2010) *Liquidity and valuation in an uncertain world*. *Journal of Financial Economics* 97, p. 1–11.

for market events observed during the financial and credit crisis. However, few empirical studies have been conducted. This is probably due to the difficulty of measuring uncertainty.

Risk is generally measured by the observed yield spread, whereas the measure of uncertainty is typically implicit volatility, calculated from the prices of options of the underlying security, which can be seen to represent investor expectations of future volatility. Other common measures of uncertainty include bid-ask spread and various standard deviations obtained from surveys. The more respondents disagree on future macroeconomic developments, the greater the uncertainty.⁵

Political decisions⁶ affecting the financial market should be made and communicated to the market in such a way that they do not add to uncertainty. They should be as transparent as possible and well justified in order for investors to evaluate their impact on the riskiness of financial assets as accurately as possible. It is also important to commit to the decisions made in order to avoid uncertainty.

⁵ Eg E. Anderson, E. Ghysels and J. Juergens (2009) *The impact of risk and uncertainty on expected returns*. *Journal of Financial Economics* 94, p. 233–263 discussing empirically the impact of uncertainty on security prices.

⁶ For example, decisions concerning stress tests, financial stability facilities and regulatory reforms.

as covered bonds, away from unsecured bank debt securities.

Anchoring of earnings expectations to pre-crisis levels may lead to excesses

European banks' recent good average earnings developments will help improve the chances of phasing out public support measures. A prerequisite for restoring the banking sector's financial soundness is that banks operate on a stable footing. Banks that are strong in terms of their balance sheets can make use of opportunities that open up for business expansion. Investors have been used to obtaining large returns from the banking sector. Overly high earnings requirements, however, may encourage banks to engage in excessive risk-taking. The strengthening of banks' capital positions should lower investors' earnings requirements, as it reduces inter-temporal variation in the return on bank equity.

Finland's growth prospects for the immediate years ahead underpin financial stability

The Finnish economy is expected to grow at a fairly brisk pace in the next few years. GDP is forecast to grow by almost 4% in 2011 and less than 3% in 2012 and 2013.² The long-term growth outlook for the Finnish economy has, however, deteriorated, which is a constraint on the sustainable level of public debt. Unemployment is projected to diminish slowly and fall

² Bank of Finland Bulletin 1/2011.

slightly below 7% in 2013. Nevertheless, a gradual improvement in the employment situation will support the management of household finances.

The biggest near-term risks for domestic economic activity are related to the evolution of the European debt crisis and financing costs for both the government and banks. Investment growth is expected to remain moderate and, domestically, access to finance is not reckoned to emerge as an important barrier to investment. An interest-rate increase according to market expectations is assumed to curb housing demand in Finland, too.

Household indebtedness has continued in Finland

In Finland, household indebtedness has continued to increase during and beyond the recession and uncertainty experienced in the economy. The exceptionally low level of interest rates and the employment situation that has remained reasonable relative to the economic environment have maintained demand for housing loans in particular. Interest rates on new housing loans in Finland have been the lowest among euro area countries, and the stock of housing loans has grown over an extended period of time more rapidly than in the euro area on average. At the same time, housing prices have continued to rise after a very mild and short-lived downward correction. In the last ten years, the rise in housing prices bottomed out temporarily only in the two periods when the average interest rate on new housing loans hit over 5% (Chart 5).

In light of economic developments forecast for the immediate years ahead, no major changes in households' financial position are in sight. An interest rate hike according to market expectations will increase households' interest expenditure from the current very low levels (Chart 6). Owing to favourable income developments, however, households' debt-servicing ability is expected to remain mainly good. Higher interest rates are also expected to help constrain credit demand and slow the rise in housing prices.

Indebtedness increases the economy's vulnerability to risks

Households' loan stock has increased to more than EUR 104 billion, which accounts for about 108% of households' annual disposable income (Chart 6). If households' estimated share in housing company loans was also added to household debt, the debt ratio would be even about 7 percentage points higher than the above figure (Statistics Finland estimate for 2009).

The rapid recovery of the housing market suggests that, during the economic upswing prior to the outbreak of the international financial crisis, Finland did not succumb to excesses similar to those witnessed in some countries that have run into protracted problems. Sustained confidence in the housing market has mitigated the effects of the recession on households and the economy in general, but the risks related to indebtedness have continued to accumulate at the same time.

Chart 5.

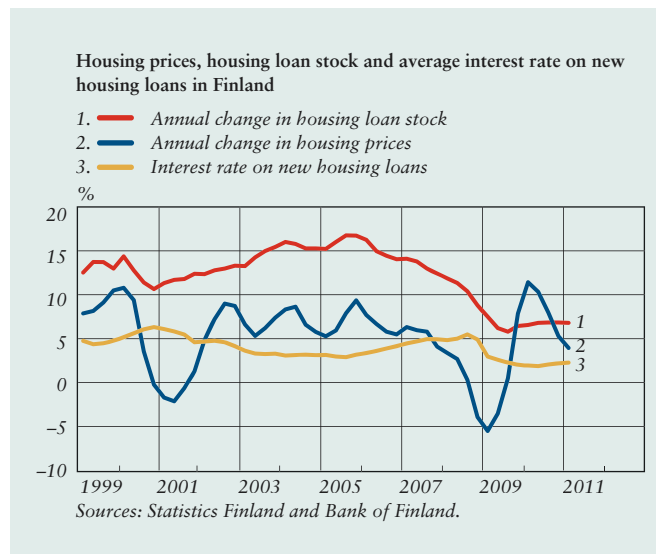
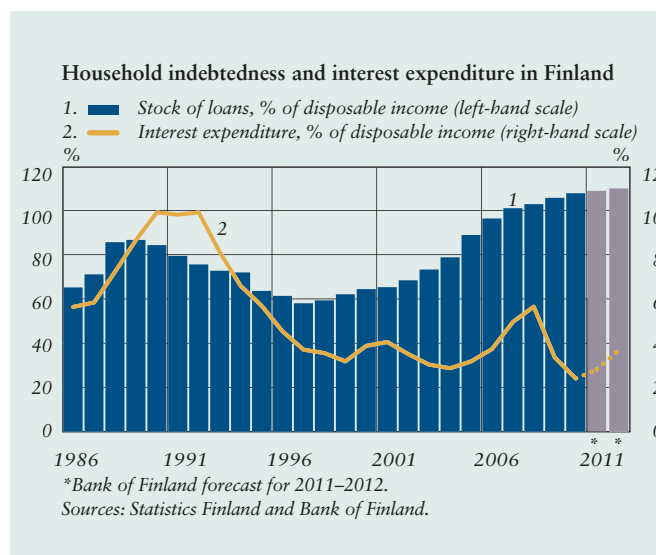
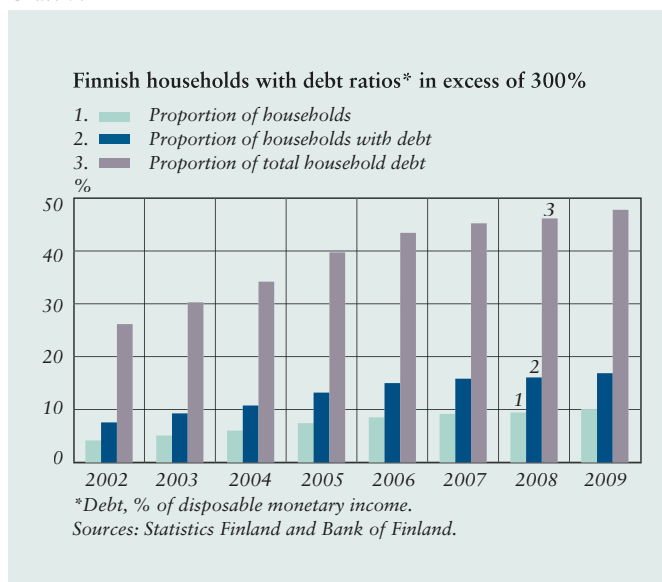


Chart 6.



It is difficult to estimate the size of a debt burden that households are able to bear in the long term. Increasing indebtedness will impair the ability of households and, simultaneously, of the economy as a whole to adjust to economic shocks. Heavily indebted households are vulnerable to rising

Chart 7.



interest rates, unemployment and falling asset prices. Thus, the risks related to indebtedness are conversely linked with the development of the very same factors that have fed growth in indebtedness in recent years. Earnings, interest rates and asset prices may undergo even sudden changes, but the unravelling of excessive debt levels is a slow and difficult process.

Importance of heavily indebted households has increased

For macroprudential stability, the recent household indebtedness displays certain worrying features. First, there are an increasingly large number of households with debt. About every third household is burdened with housing debt, and about 60% of households are indebted in general. The proportion of indebted is the highest among 25–54-year-olds; of these households, about half has housing

debt and almost 80% housing and/or other debt.³

Second, the number and importance of heavily indebted households have increased substantially in recent years. Particularly housing loans have longer maturities and are bigger than before, relative to both housing collateral and disposable income. At the end of 2009, for 17% of indebted households (for 10% of all households) the amount of debt was over three times as high as their annual disposable income (Chart 7). These households had an average of EUR 181,000 in debt, with their combined debts accounting for almost half (48%) of total household debt. In 2002, the proportion of households with equally heavy debt burdens relative to their incomes was only 8% of indebted households (4% of all households). These households' average debt amounted to EUR 122,000, with their combined debts representing a good quarter (26%) of the total household stock of debt.

Third, an ever larger share of the housing loan stock – currently about three quarters – is directly tied to Euribor rates. This exposes indebted households to disruptions in interbank money markets. The share of housing loans tied to floating rates, including loans tied to banks' own reference rates, has remained at about 94% for a long time. The heaviest interest-rate burden falls on the most indebted households, whose interest expenditures are also the most sensitive to interest-rate fluctuations (Chart 8).

³ The figures are based on the latest data (from 2009) by Statistics Finland on household indebtedness.

Housing prices have levelled off, but remain historically high

Housing prices have levelled off since spring 2010. In terms of various indicators, however, the relative housing price level is higher than the average over the last three decades (Chart 9). Housing prices relative to wage and salary earnings are about 7% higher than the long-term average but lower than prior to the recession of the 1990s and just before the onset of the latest financial crisis. The P/E ratio and Tobin's q applied to the housing market⁴ show that the valuation of dwellings is considerably higher than average, compared with rental income and prices for housing investment.

Households must prepare for risks related to indebtedness in good time

Households must prepare for the risks related to indebtedness sufficiently in advance. Households should ensure that the size of their debt and debt-servicing expenses are reasonable relative to their disposable income and collateral. A potential rise in interest rates must also be taken into account by calculating in advance the effect of a rise in the reference rate on debt-servicing expenses or the loan repayment period. Keeping adequate financial buffers and savings provides security in the event of both higher interest payments and unexpected consumption expenditures.

The Financial Supervisory Authority (FIN-FSA) has drawn attention to the

⁴ In the stock market, the P/E ratio means the ratio of a company's share price to its per-share earnings and Tobin's q the ratio of a company's market value to its equity book value (replacement value).

Chart 8.

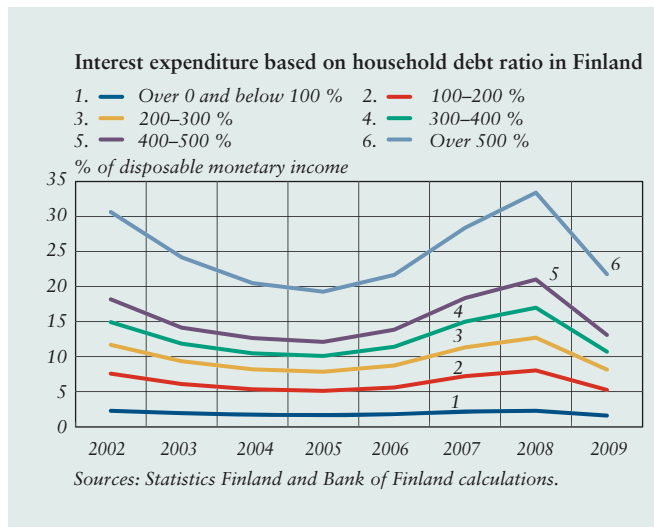
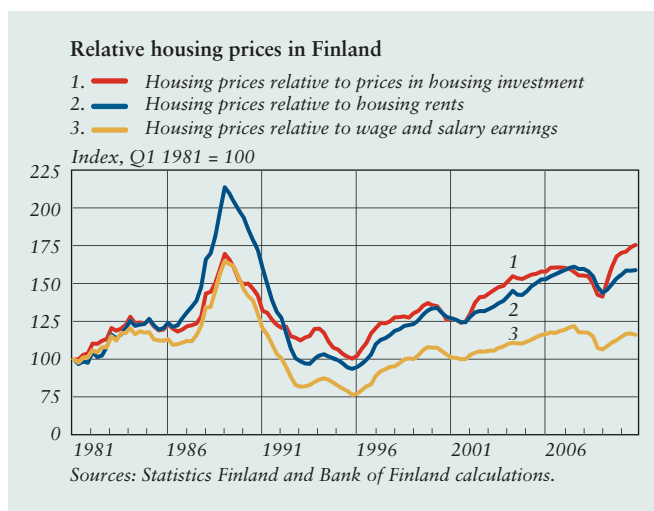


Chart 9.



high loan-to-value (LTV) ratios in housing loans granted in Finland and recommended at least a 10% self-financing share, in order to hedge borrowers against risks. At the international level, for example, the International Monetary Fund (IMF) and the Financial Stability Board (FSB), a body responsible for safeguarding financial-sector stability, have also underlined the importance of sound and uniform

lending practices from the viewpoint of macroprudential stability.⁵

Slow rebound in investment keeps corporate demand for credit in check

The rapid recovery of Finnish GDP since 2009 from the global financial market crisis is decelerating, with forecasts pointing to no prospect of attaining before 2012 the output levels seen prior to the deep recession. The capacity utilisation rate of the Finnish industry is approaching its long-term average level. Growth in services and construction is also projected to continue, albeit at a slowing pace. Corporate investment has gradually started to increase, but the investment ratio for the next few years is forecast to remain relatively low.

⁵ FSB (2011) Thematic Review on Mortgage Underwriting and Origination Process and IMF (2011) Global Financial Stability Report.

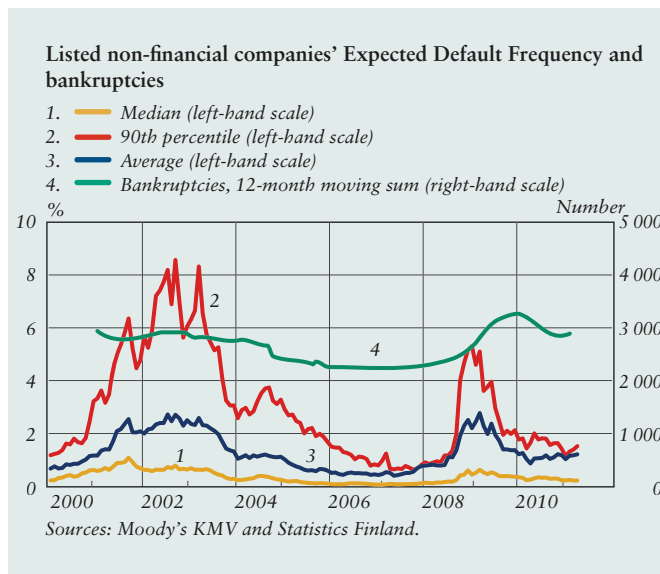
Although improved profitability provides non-financial corporations with better chances of increasing their retained earnings, higher investment is also likely to spur corporate demand for external funds. In most non-financial corporations, cash flows have sufficed to cover working capital needs, as suggested by the almost stagnant commercial paper market. As well as sluggish investment, the low level of mergers and acquisitions has subdued requirements for external financing.

According to the Business financing survey, there has been a clear improvement in non-financial corporations' access to finance.⁶ Corporate indebtedness is also at relatively low levels (Box 3). Securitised funding in international markets eased in 2010 and, according to the Business financing survey, will become increasingly popular in the near future.

Finnish non-financial corporations' probability of bankruptcy decreased rapidly in 2009 and has remained relatively low since (Chart 10). Even so, the number of bankruptcies has not declined significantly from the level it reached in 2009 (Chart 10). The number of payment defaults has also remained fairly high.

Average interest rates on corporate loans have risen since early 2010 (Chart 11), which is likely to reflect better pricing of corporate risks. The ongoing elevation of interest rates according to market expectations will add to non-

Chart 10.



⁶ Bank of Finland, Confederation of Finnish Industries and Ministry of Employment and the Economy (2010) Yritysten rahoituskysely (Business financing survey, in Finnish only).

European comparison shows Finnish companies are mildly indebted

Companies often get less attention than households in analyses that look at risks resulting from indebtedness. However, in terms of stability analysis, the impact of corporate leverage is considerably high as a large portion of loan losses typically results from corporate credit.

In the Finnish corporate sector, interest-bearing¹ debt (debt securities and loans) amounts to more than EUR 100 billion (Chart A). Banks continue to be the key source of corporate funding. At the beginning of the financial crisis, banks' relative share grew strongly due to the temporary drying up of market funding for corporations. Subsequently, while banks' share of corporate funding has returned to approximately 60%, the share of debt securities has remained smaller than before. The significance of employment pension schemes as providers of corporate funding heightened during the crisis, with their stock of corporate lending more than doubling.

The measure typically used in international comparisons of corporate leverage is consolidated interest-bearing debt of financial accounts.² In 2009, consolidated interest-bearing debt of the Finnish corporate sector

accounted for 77% of GDP (Chart B). In the European comparison, the debt ratio was smaller than the median and also smaller than in other Nordic countries and Estonia.

In addition, Finnish corporate indebtedness has grown moderately. In 1999–2009, growth in Finnish corporate indebtedness was slower than in Europe on average. This is due to Finnish companies' good profitability. In the same period,

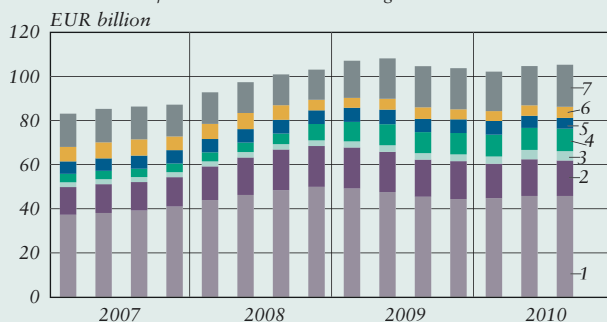
corporate investment accounted for 147% of gross savings. The resulting self-financing ratio was among the highest in Europe.

In continental Europe and Nordic countries, corporate funding is dominated by banks and the significance of debt securities is considerably smaller than in Anglo-Saxon countries. In Finland, the role of debt securities is somewhat more pronounced than in most EU countries.

Chart A.

Corporate sector interest-bearing debt structure

- 1. Loans from MFIs
- 2. Overseas loans
- 3. Loans from other MFIs
- 4. Loans from employee pension companies
- 5. Loans from other public sector entities (excl. direct investment)
- 6. Short-term debt securities
- 7. Long-term debt securities

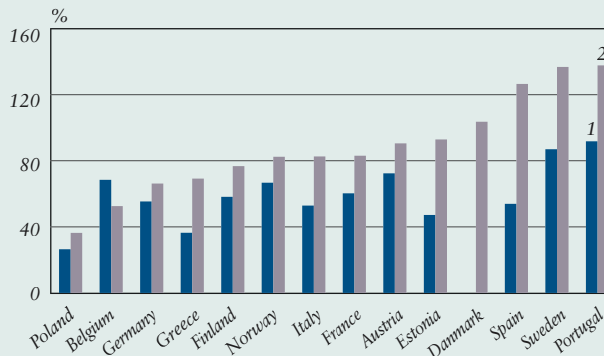


Source: Bank of Finland.

Chart B.

Corporate sector gross debt to GDP ratio

- 1. 1999
- 2. 2009



Source: OECD.

¹ Excluding domestic inter-company loans and direct foreign investment loans. The former are primary intra-group loans. By definition, direct investment is intra-group investment.

² Contrary to the previous measure, consolidated debt also included direct investment loans.

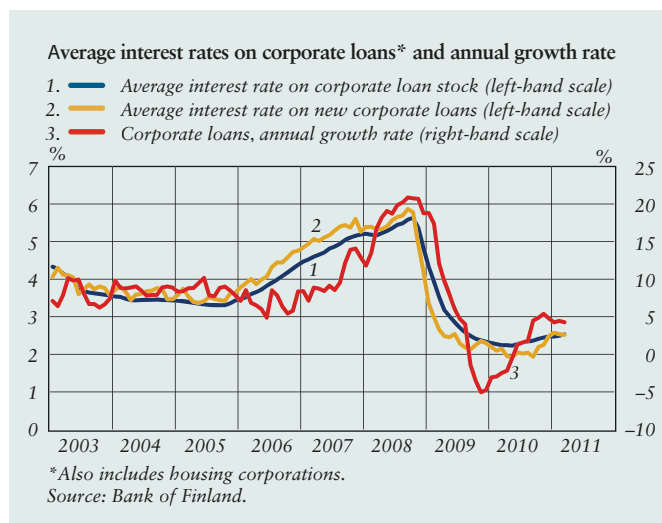
financial corporations' funding costs. The corporate bond spread vis-à-vis lower-risk government debt securities (eg in new syndicated agreements) may remain wider than pre-crisis over an extended period of time. Corporate loan stocks began to grow last year (Chart 11), and non-financial corporations' willingness to borrow is expected to strengthen further still.

A great deal of corporate loan agreements will mature in the next few years, presenting a challenge for non-financial corporations to roll them over on as advantageous terms and conditions as possible. The worsening of sovereign financing problems could also have a crowding-out effect on corporate funding. Profit-making non-financial corporations can access, for example, syndicated funding, albeit less than earlier, as part of lenders have exited the market. In addition, regulatory changes (Basel III and Solvency II) and potential new taxes on financial transactions will probably

increase the cost of financing from banks. The consequences may be felt in particular by the Finnish SME sector, which is dependent on banks as a source of funds.

A long-term threat is the weakening of non-financial corporations' real competitiveness. Owing to global competition and structural changes, non-financial corporations increasingly relocate their operations abroad and invest there. This development may erode the Finnish economy, including the financial markets, thus dampening potential credit demand. In withering financial markets, supply declines and competition is likely to weaken, which would have an upward impact on financing costs for those who need to borrow.

Chart 11.



Banking and insurance sector

Following the favourable development of loan losses and non-interest income, the decline in the profitability of domestic banks in Finland has come to a halt. Operating profits are projected to improve markedly in the future in response to higher net interest income. The focus of banks' debt financing has shifted away from unsecured market funding towards covered bonds. Although banks' have achieved a longer-term funding structure, the proportion of long-term funding is still not high enough to fulfil the new Basel III requirements. The lending of banks has been concentrated on housing and real estate loans, while the credit risk outlook has improved in the wake of the economic recovery. The Finnish banking sector is in good health overall, but systemic risks are elevated by the presence of a threat of external shocks. The solvency of insurance companies has remained good on average and their risk tolerance has improved in response to higher solvency margins.

The profitability of banking declined slightly in 2010

Operating profits for domestic banks in Finland¹ amounted to EUR 2,026 million in 2010, which was 1.5% less than in the year before (Chart 12). Net interest income at annual level fell further, although the decline moderated considerably in the latter half of the year. Results were boosted by lower loan losses, which have shown a declining trend since autumn 2009. Aggregate loan losses for 2010 dropped

¹ Domestic banks in Finland incl. their foreign branches. This data at parent level differs from group-level releases.

by almost one half from the year before. The increase in fee income and income from equity investments also contributed to the results improvement. Net income from securities transactions and foreign exchange dealing, which had increased strongly over the past years, was now, by contrast, slightly lower than in 2009, reflecting the strained market situation in spring and late 2010, following the escalation of the sovereign debt crisis.

Chart 12.

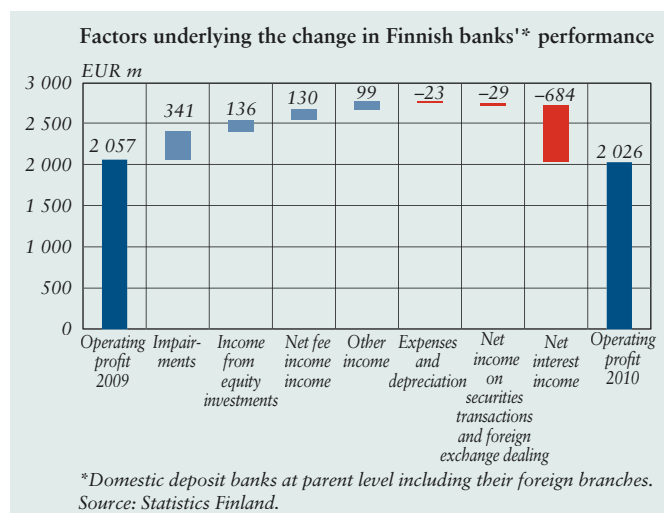
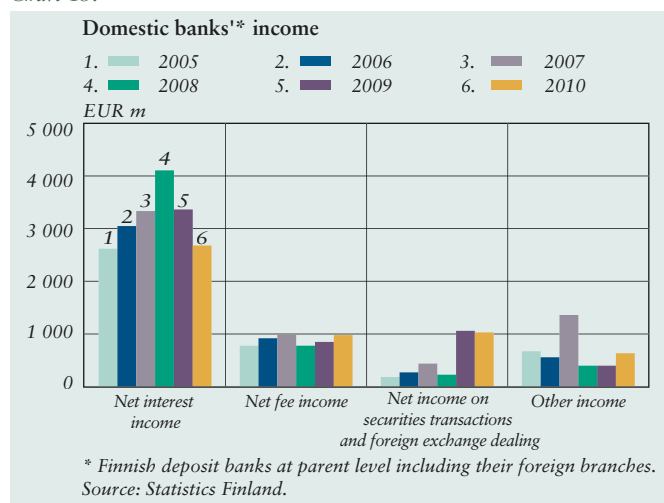


Chart 13.



In the longer-term perspective, the major significance of net interest income for banks' financial results, on the one hand, and the underlying changes in net interest income, on the other, are revealed (Chart 13). Net interest income posted steady growth until 2008, after which it started to decline substantially in step with falling market rates.

Growth in fee income has been relatively stable. Fee income on lending (including guarantees) has increased in importance during the past few years. After a brief dip in 2008, fee income on savings has started to grow in step with higher share prices and a higher volume of assets in management, while fee income on payments has shown a relatively stable development. The volatility of total fee income is offset by the diverse structure of fee income, which, thus, serves to stabilise banks' results.

Developments in staff costs, which represent the single largest expense item for banks, have been moderate. In 2005–2010, staff costs increased by around one-fifth overall, whereas the banks' balance sheets more than doubled over the same period. Staff costs even turned down at the beginning of 2010. However, IT costs as a proportion of administrative costs have turned slightly up.

Banks' capital adequacy rests on solid ground

Banks' continued solid performance has resulted in an increase in Tier 1 capital. Capital adequacy has remained sound and capital adequacy ratios have been practically unchanged from autumn 2009.

Banks' regulatory capital is of very high quality, as the majority consists of unrestricted Tier 1 capital, ie, in practice, share capital and undistributed profits. At the end of 2010, the Tier 1 capital adequacy ratio stood at 13.2%, as compared with the minimum requirement of 4%.² The actual capital adequacy ratio, which also captures capital loans and Tier 2 capital, represented 14.4% at the end of 2010.

Banks' regulatory capital increased by around EUR 700 million in 2010, primarily via profit growth. Similarly, the regulatory own funds requirement increased by around EUR 500 million, mainly due to a higher capital charge for credit risk.

In the course of 2010, the regulatory capital buffer of the banking sector expanded to EUR 9.6 billion, from EUR 9.4 billion in the year before. Assets in excess of the regulatory minimum must be held, among other things, to support credit concentration risk, balance sheet interest rate risk and business risk.

Banks' results start to improve in 2011

Operating profits for the banking groups³ are expected to edge up strongly in 2011 and continue to grow in 2012. There are many factors behind this performance improvement, first and foremost the strong rise in net interest income driven by the increase in market rates. The net margin between lending and deposit rates will

² With the adoption of the new Basel III framework, the minimum capital requirement will be gradually raised to 7% by the beginning of 2019.

³ Incl. domestic banking groups in Finland and foreign credit institutions' Finnish branches providing deposit banking services.

grow as deposit rates fall behind lending rates.

Growth in fee income is another contributory factor to the results improvement of banks, although it is projected to moderate from the strong increase witnessed in 2010. Similarly, net insurance income is expected to contribute to the results improvement of the banking groups. By contrast, net income on securities transactions and invested assets is projected to fall from the exceptional good levels witnessed in 2009–2010, but, nevertheless, remain substantial in historical terms.

Growth in expenses is expected to remain on a moderate track, as in previous years, while loan losses are projected to decline further. Lower loan losses is the second most important factor underlying the improvement of banks' results, next only to higher net interest income.

These projected developments of the banking sector are surrounded by uncertainties particularly related to the macro economy. A gloomier-than-expected macroeconomic development would be reflected in banks' financial results via a number of channels.

In an environment of weaker-than-expected economic developments, market rates may not rise as much as expected, thus resulting in lower interest rate margins. A sluggish economic development would also be reflected in a slower increase in the volume of deposits and lending. In combination with lower interest rate margins, this would lead to weaker-than-expected growth in net interest income. In addition, fee income would

fall and impairment losses on lending and invested assets grow.

The results of the stress test conducted by the Financial Supervisory Authority (FIN-FSA) in spring 2011 indicate that the Finnish banking sector would be able to survive the unfavourable scenario outlined above.⁴ Capital adequacy would remain strong, despite lower net interest income and higher loan losses.

Finnish banks' need for market funding stable, covered bonds gaining in popularity

The size of the liquidity buffers to be held by banks depends on the amount of assets and liabilities and on maturity structures. Banks mostly use deposits and debt securities to finance their lending. Usually shorter-term deposits, in particular, are used to finance long-term loans. The maturity mismatch of assets and liabilities gives rise to liquidity risk, which is an inherent element of banking.

Banks make provision for unexpected liquidity needs by maintaining liquidity buffers of cash and high-quality, liquid debt securities. Banks may cover their liquidity needs either by selling buffer securities or by taking up loans against them from the central bank or the money market.

The volume of central bank financing accessed by banks operating in Finland has been negligible since the latter half of 2010 and the maturation of the ECB longer-term refinancing operations, the volume of which was, at most, close to EUR 4 billion. More

⁴ Financial Supervisory Authority (2011) Financial position and risks of supervised entities 1/2011, pp 4–7.

recently, the volume of central bank funding has remained around EUR 50 million.

For banks operating in Finland, the difference between the volume of public lending⁵ and deposits has hovered around EUR 40 billion during the past few years (Chart 14). This financing

⁵ Here, 'public' is used to refer to sectors other than the financial sector.

Chart 14.

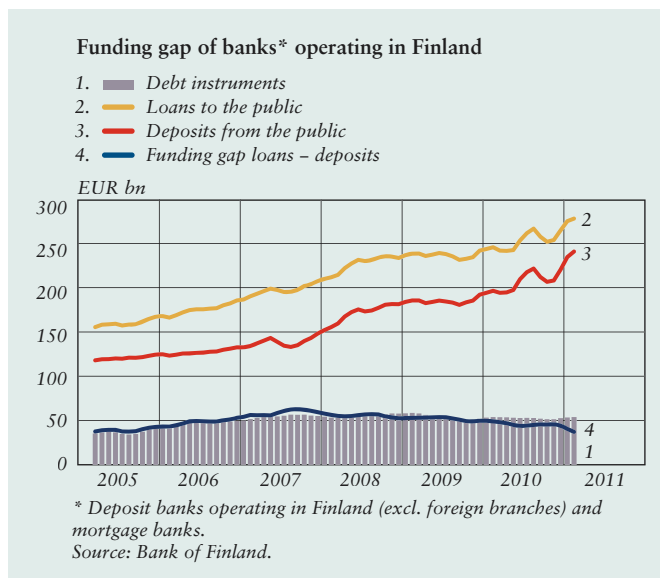
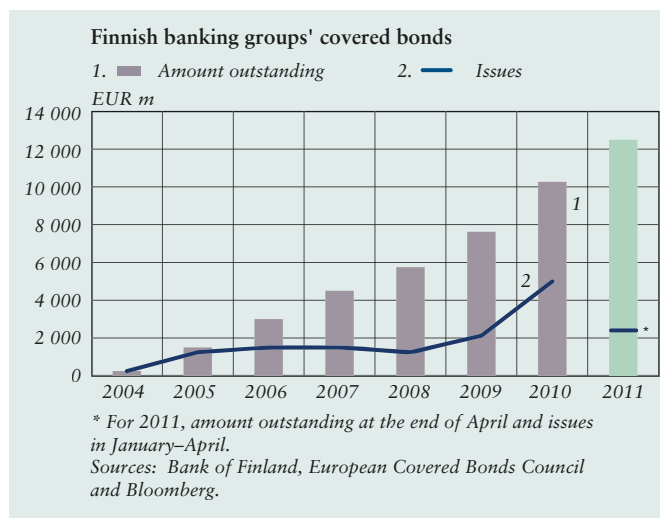


Chart 15.



gap illustrates banks' need for market funding.

Banks have increasingly relied on covered bonds as a source of long-term wholesale funding (Chart 15). Individual bond issues have been very large in volume by Finnish standards, generally amounting to at least EUR 1 billion. Covered bonds have been in ample demand, and the price has been favourable considering the market situation. By contrast, the demand for unsecured bonds has been more subdued, and prices have gone up a little in early 2011. The availability of short-term debt financing has remained good, but, similarly, at a slightly higher cost.

The more widespread use of covered bonds is a welcome development, as they have made up for the decline in the availability of unsecured market funding. As regards liquidity risk, the limits of growth in the demand for covered bonds is a crucial issue. Stronger reliance on covered bonds as a source of refinancing in future may cause problems in the form potential saturation of markets, not least so if the demand for unsecured bonds remains subdued.

Stronger focus on long-term and overseas funding

Liquidity problems are generally preceded by shortening funding maturities, as concerns about the sustainability of the prospective borrowers' financial situation are raised among financiers. Furthermore, foreign financiers are the first to vanish if problems appear. To simplify, the shorter the maturities and the higher the proportion of foreign financiers, the

higher the liquidity risks. This applies to both sovereigns and banks.

Finnish banks have extended average funding maturities and raised their liquidity buffers, partly in preparation of the imminent new Basel III requirements. Overall, the liquidity situation of Finnish banks can be described as good.

The proportion of foreign holders of debt securities issued by Finnish MFIs increased strongly in the 2000s. The proportion of domestic holdings remained unchanged, while that of foreign holdings more than quadrupled. At the turn of the millennium, domestic holdings accounted for 70% and foreign holdings for 30% of MFI holdings, but this relationship was reversed during the first decade of the 2000s. This development is related to the strong Nordic integration of the Finnish banking sector. Finland is the only Nordic country belonging to the euro area, and the Finnish units of Nordic banking groups have issued a high volume of debt securities in the global market.

Banks need to achieve a longer-term funding structure

The Basel III framework includes new quantitative liquidity standards. In an exercise based on publicly available data, the Bank of Finland tested in how far banks operating in Finland currently fulfil the requirements of Net Stable Funding Ratio. The standard provides that the less liquid and the longer the term of the bank's assets, the longer the term of the funding structure.

The calculations were made using the methodology set out in the

Financial Stability Report of the International Monetary Fund.⁶ In this approach, banks' balance sheet assets are weighted against liquidity, while liabilities are weighted against stability. Each balance sheet item is assigned a factor, with the sum of balance sheet items and related factors expressing available stable funding (balance sheet liabilities) and required stable funding (balance sheet assets).

The average Net Stable Funding Ratio obtained from balance sheet data for the end of 2010 for selected Finnish banks stands at 0.83, while the minimum to be attained under the new standard is 1.00.⁷ In the calculations, an aggregated stable funding deficit of EUR 25 billion was arrived at for these banks. The results must be assessed bearing in mind that the calculations were based on many simplified assumptions as not all the data underlying the calculation of the Net Stable Funding Ratio is available from public sources.

The Financial Supervisory Authority (FIN-FSA) calculated the stable funding deficit for the Finnish banking sector as part of the EU-wide quantitative impact study of the Basel III regulatory reform. In the calculation, which was based on balance sheet data for the end of 2009, an aggregated stable funding deficit of EUR 25 billion was obtained for the Finnish banking sector.⁸ According to

⁶ See <http://www.imf.org/external/pubs/ft/gfsr/2011/01/index.htm>, chapter II.

⁷ The calculations are based on the annual reports of Aktia Bank, Nordea Bank Finland, OP-Pohjola Group, Sampo Bank and Ålandsbanken.

⁸ FIN-FSA press conference on Basel III of 13 April 2011.

IMF, the Net Stable Funding Ratio for European banks moved in the region of 0.85–0.90 in 2009.

Credit risk outlook improved

Finnish banks' loan losses have remained relatively low during the global financial crisis and the subsequent period of economic recession and uncertainty. Net impairment losses on loans and other assets amounted to a little less than EUR 1.5 billion overall in 2008–2010 (Chart 16). Even at their highest, annual net impairment losses remained below 0.5% of banks' lending and guarantee volumes in 2009. During the economic depression and banking crisis of the early 1990s, the increase in troubled assets was much stronger, with annual loan losses, at worst, accounting for more than 4% of the lending stock.

In 2010, the strong economic recovery, low level of interest rates and rise in asset prices supported the loan

servicing ability of both households and businesses, which was also reflected in fewer bankruptcies. Net impairment losses on loans and other assets remained below EUR 500 million, which was more than 40% less than in the year of recession, 2009. However, the amount of nonperforming assets was almost unchanged from 2009. At the end of 2010, nonperforming assets amounted to around EUR 1.2 billion, accounting for roughly 0.6% of the stock of lending and guarantees.

The realisation of credit risks is related to developments in both the real economy and financial markets. In light of the expected economic and interest rate development, loan losses are projected to decline further over the next few years. It is not clear from statistics, though, in how far the exceptionally low level of interest rates and banks' loan repayment flexibility have only put off lurking loan servicing problems.

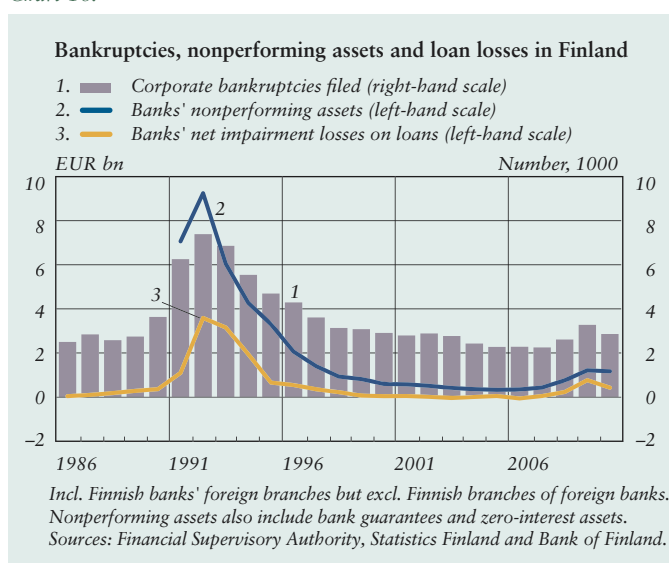
Lending focusing on domestic housing and real estate loans

Finnish banks' lending and guarantees to domestic and foreign borrowers amounted to a total of EUR 203 billion at the end of 2010, which was almost EUR 14 billion (7%) more than in the year before. Most of the growth was derived from lending to households, real estate businesses (incl. housing corporations) and different foreign sectors.

Banks' domestic lending has focused on housing and real estate funding (Chart 17). Household loans account for approximately half (EUR 102 billion) of the lending stock (incl. guarantees).

Around three-quarters of these loans are

Chart 16.



housing loans and the rest consumer credits and other credits. Approximately half of consumer credits are unsecured. Less than one-third of the stock of lending and guarantees (EUR 62 billion) consists of loans granted to domestic companies and housing corporations. A sectoral breakdown of the lending and guarantee stock shows that the highest volume of credit (EUR 20 billion) is related to the real estate business. Most of these loans are registered to companies that are in the business of letting and/or administering property. This group also includes housing corporations.

Around half of net impairment losses for 2008–2010 were incurred on loans to domestic companies (incl. housing corporations), approximately one-fifth on foreign lending and a good one-tenth on household loans. A sectoral breakdown of loan losses unveils that most of them resulted from loans to manufacturing companies strongly dependent on export demand. The significance of collectively assessed loan loss provisions, as opposed to individual loan loss provisions, has fluctuated with business cycles: in 2009, in the year of recession, collectively assessed impairment losses accounted for roughly one-fifth of registered impairment losses, against only 3% in 2010.

A breakdown of banks' nonperforming assets indicates that the proportion of troubled assets at the end of 2010 was highest in cyclically sensitive industries, such as the accommodation and food service sector and the construction sector (Chart 18). However, these sectors carry very little weight in banks' credit portfolios (only

Chart 17.

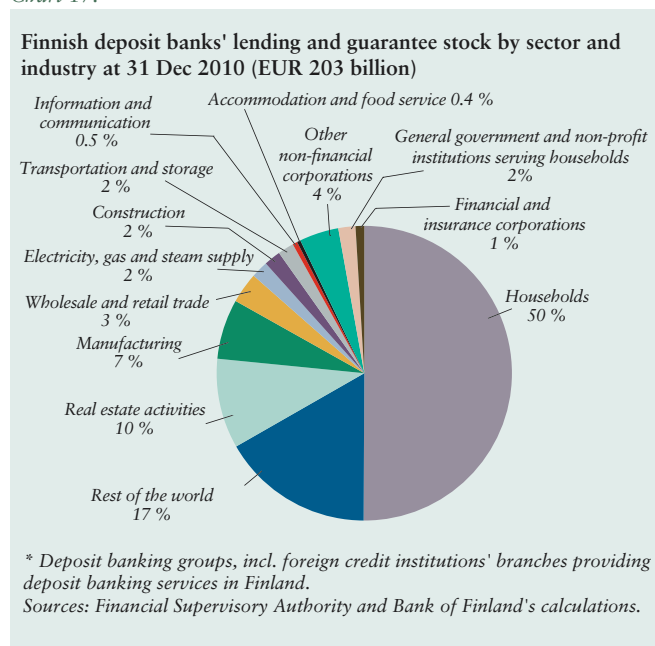
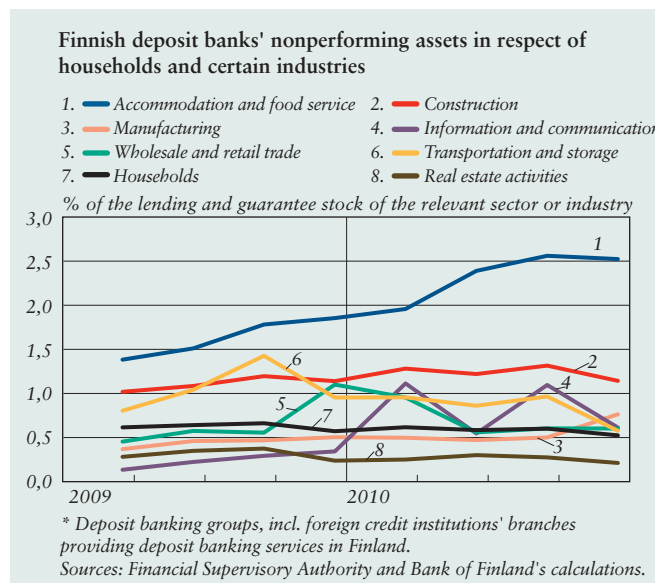


Chart 18.



slightly over 2%). In the household and real estate sectors, by contrast, troubled assets have remained low relative to the volume of lending.

Housing loans have, traditionally, been regarded as carrying a low risk, but as the proportion of housing loans

in banks' credit portfolios has grown, related risks have also become more highlighted. Recently, increasing attention has been paid to the relaxation of lending criteria especially for first-time buyers of housing.⁹

Systemic risks are primarily external in origin

Systemic risks refer to risks the materialisation of which would build vulnerabilities in the financial system overall and in the real economy. Systemic risks mainly arise from banks' simultaneous exposure to risks in the domestic and/or

foreign real economy and from contagion via the interlinkages of banks, markets and sovereigns. As systemic risks are multidimensional, a number of different indicators must be employed to measure them.

Small size of banking sector makes it less vulnerable

The GDP ratio of the aggregate balance sheet for the banking sector illustrates the significance of the banking sector and the vulnerability of the real economy in the face of the realisation of banking sector risks. In Finland, the size of the banking sector is 2.2 times that of GDP, which is a fairly low ratio in comparison with the banking systems of most other European countries.¹⁰

Banking sector in good health overall

Systemic risk is often measured by a combined set of indicators illustrating the overall health of the banking sector based on data from various areas. The stress index for the Finnish banking sector (Chart 19) has been obtained by combining data on bank share prices, interbank deposits, profitability, regulatory capital and loan losses. A higher index value denotes a higher systemic risk. The index shows that risks in the Finnish banking sector have been further reduced from the level witnessed in 2009, which was already rather moderate considering the unstable operating environment.

The overall condition of Finnish banks can also be measured by the

⁹ See FIN-FSA' press release of 14 April 2011.

Chart 19.

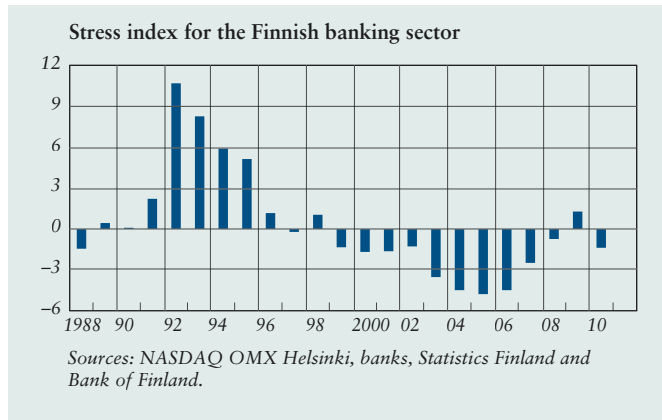
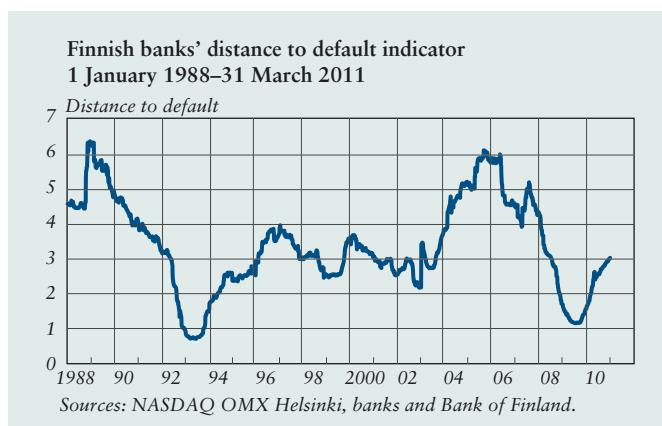


Chart 20.



¹⁰ Excluding intra-group assets and derivatives, the size of the banking sector in proportion to GDP is much smaller. If foreign-owned banks are excluded, the ratio is further reduced.

distance to default indicator based on share market and banks' balance sheet data (Chart 20). This indicator also points to an improvement in the condition of Finnish banks.

Highest risk of contagion from Scandinavia

Although the Finnish banking sector is in good health overall, measurements of systemic risk must also account for the vulnerability of the banking system to external shocks. Finnish banks have substantial holdings of foreign assets,¹¹ which makes them exposed to external shocks.

The Finnish banking system is highly concentrated, with two foreign-owned banks holding a substantial share of the market. Were the condition of the foreign parent banks of these banks to deteriorate, the problems would inevitably also be reflected in the Finnish banking system.

The banking sector's exposure to external contagion risks may be expressed by the ratio of foreign assets to the aggregate balance sheet of the banking sector. In Finland, this ratio is relatively high (53.4%). However, excluding derivatives and intra-group assets, the ratio is much lower (27.9%).

The significance of contagion risks is related to the degree of concentration of the counterparty structure. If foreign assets are diversified across several countries, sectors and instruments, the contagion risk is not as significant, even if the proportion of foreign assets in the portfolio is high.

¹¹ Here, 'assets' is used to refer to all assets (loans and securities) in all sectors (households, companies, banks and sovereigns).

The country-specific concentration of the counterparty structure may be measured by the Herfindahl index, which is obtained from the sum of the squared shares of the assets of the ten largest counterparty countries. For Finnish banks, the ten largest counterparty countries are, in the order of magnitude, Denmark, United Kingdom, Sweden, Germany, France, Norway, United States, Netherlands, Switzerland and Poland. The value of the Herfindahl index is 15.5%, which points to a relatively high degree of diversification of the country risks present in the Finnish banking system.

Greater concerns are currently related to the sovereign loans of the GIP countries, ie Greece, Ireland and Portugal. Finnish banks' holdings of sovereign debt issued by the GIP countries amount to EUR 24 million, EUR 52 million and EUR 0.4 million, respectively. These are very low amounts relative to the total assets of the banking system.

The Finnish banking system is in good health overall and indigenous systemic risks are very low. However, the potential for contagion from abroad increases banking sector risks, although the Finnish banks' claims on the sovereign debts of the crisis ridden economies are very small. Because of the channels of contagion, the spillover effects would, however, hardly be limited to sovereign debt claims were the risks to materialise. In order to maintain the stability of the Finnish banking system, Finland, too, therefore has a strong interest in finding a solution to the European sovereign debt crisis and achieving financial stability in Europe.

Insurance companies' solvency strengthened in 2010

The profitability and solvency of Finnish insurance companies has continued to remain very good on average. The recovery of share prices in 2010 created the conditions for a favourable development of the insurance companies' investment business. Good investment returns boosted the solvency of insurance companies, almost without exception. Nevertheless, investment income was slightly lower in 2010 than in 2009, but real investment income remained good, and the impairment losses on bonds resulting from the sovereign debt crisis in some European countries did not reduce insurers' average portfolio returns to any significant degree. The recovery of the domestic economy also contributed to the growth in premiums written, thereby bolstering the profitability of insurance companies.

The performance of non-life insurers was, however, held back by rising claims expenditure, with the combined expense ratio declining for several companies. Nevertheless, the combined expense ratio for the largest non-life insurers was still below 100, and underwriting profitability remained positive despite the decline. The investment return boosted the financial performance of life and pension insurers.

In 2010, the insurance business reported very robust growth in premiums written for all lines of insurance except non-life insurance, the premiums written of which increased by only a few per cent, standing at EUR 3.4 billion. The effects of the recession

following in the wake of the financial crisis were still visible in the sluggish growth in premiums written on corporate insurance, for example.

Better employment prospects contributed to growth in premiums written by employee pension insurers. Following the ageing of the population, the pension payments of employee pension companies will, however, exceed premiums written in the near future.

Growth in premiums written by life insurance companies was exceptionally brisk in 2010, with the volume of premiums written exceeding EUR 5 billion, which was over 50% more than in the year before. The growth was attributable to a very strong increase in premiums written on group life insurance and capitalisation agreements. One of the reasons behind the expansion in premiums written on group life insurance was the dissolution of voluntary pension funds and the subsequent shift to products offered by life insurance companies. Despite the uncertainty prevailing in investment markets, the number of capitalisation agreements doubled from the year before.

The exceptionally high pace of growth in premiums written on group life insurance and capitalisation agreements witnessed in 2010 is expected to level off in the course of 2011. The market for personal pension policies is fading away. In connection with the launch of long-term savings accounts, less favourable terms were introduced for traditional personal pension policies, and the decline in new policies that started in 2010 has been sustained in 2011. The strong decline in

premiums written has an adverse effect on the profitability of life insurance companies.

Solvency margins improved

Asset portfolios of insurance companies vary in structure, which is also reflected in rather large differences in return. In line with the nature of the non-life business, the equity holdings of non-life insurance companies are moderate. This is reflected in lower average returns on invested assets, compared with life and employee pension companies. The portfolio share of equities is highest for employee pension companies, accounting for a good one-third of total assets. The investment strategies applied by employee pension companies vary not only in terms of equities but also in terms of other holdings, such as hedge funds. The diversity of portfolio structures serves to support the risk bearing capacity of the Finnish earnings-related pension scheme. Finnish insurers have reduced their holdings of fixed income debt securities issued by banks and also disposed of some of their holdings of Finnish and euro area government bonds.

Life and non-life insurers are currently making provision for the new solvency regime that will take effect at the beginning of 2013, by cutting down on high risk assets. The findings of the Fifth Quantitative Impact Study (QIS5) for life and non-life insurance companies show that Finnish insurance companies are well equipped to comply with the new risk-based solvency requirements under the Solvency II Directive. According to QIS5, the intro-

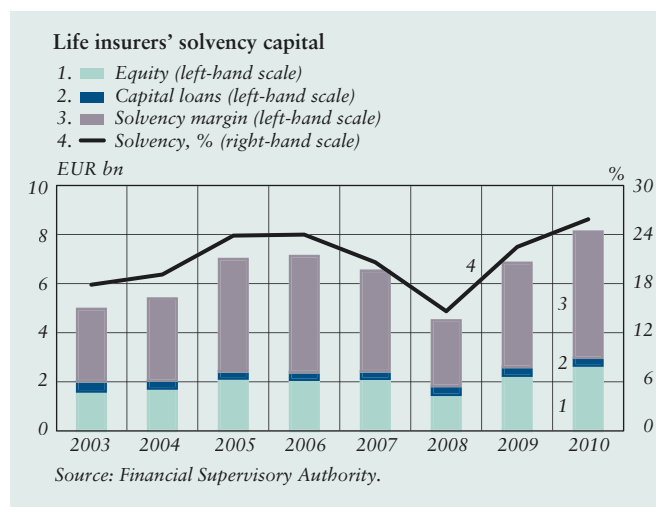
duction of Solvency II will entail much tighter solvency requirements for non-life insurers.¹²

Investments have boosted the solvency of insurance companies. Solvency margins have increased in response to higher investment income. The risk buffers maintained by the Finnish insurance industry are fairly strong on average, although there are major differences by company.

The solvency of life insurance companies has remained strong (Chart 21), but varies substantially across individual companies. The amount of solvency margins supporting solvency developed favourably in 2010. The life insurance sector is well equipped to absorb a substantial interest rate rise. Similarly, the increase in share prices must be substantial for the solvency margins of life insurance companies to

¹² FIN-FSA (15.3.2011) Results of Quantitative Impact Study for the European insurance industry QIS5: Finnish insurance sector would meet the essential points of the solvency requirements of the new Solvency II Directive.

Chart 21.



fall below the minimum solvency requirement.¹³

The solvency of non-life insurers was also robust thanks to investment income. Solvency margins and risk buffers were strengthened in 2010. Aggregate solvency margins for non-life insurers would be able to absorb very huge falls in the prices of assets, before contracting as much as to approach the minimum requirement.

Similarly, the solvency of employee pension companies has continued to improve. When examining the solvency of employee pension companies, however, the effects of the temporary act in force until the end of 2012 must be taken into account. Under this temporary act, employee pension companies are, exceptionally, allowed to treat a certain amount of the provision for pooled claims as equivalent to the solvency margin. Indeed, the average solvency levels of employee pension companies would currently be fairly good even without the exceptions allowed under the temporary act. Admittedly, the higher proportion of equity holdings and the resulting increase in the solvency limit reflecting portfolio risks have, to some extent, reduced the risk-based solvency position of employee pension companies.

¹³ Financial Supervisory Authority (14.4.2011) Financial position and risks of supervised entities 1/2011.

Future outlook and risks in the insurance industry

The near-term outlook for the insurance companies can be described as relatively stable. Despite the stability of the domestic operating environment, there are, however, downside risks to the investment operations of the insurance sector which may erode the solvency of the companies. The low level of interest rates and the dual market for government and bank bonds, for example, pose challenges to the investment business of the insurance industry. A collapse in share prices would result in a rapid disintegration of the present favourable solvency position of the employee pension sector, in particular.

The findings of the stress test conducted by FIN-FSA in February–March 2011 indicate that the solvency position of the insurance companies would remain satisfactory in a scenario of much weaker-than-expected performance of the Finnish economy. Subsequent calculations, however, indicate that exceptionally strong share price changes, in combination with interest rate volatility, could be a source of problems.¹⁴

¹⁴ Financial Supervisory Authority (2011) Financial position and risks of supervised entities 1/2011.

Stress tests reveal risks – but do not give all the answers

Stress tests are a key tool for evaluating the risk-bearing capacity of financial institutions and the financial system. When examining the results, it is important to note both the objectives and limitations of the tests.

Stress tests are used to evaluate the degree of vulnerability of individual financial institutions and, more widely, of the entire financial sector to shocks affecting the financial system. Stress scenarios simulate unlikely, yet possible hypothetical unfavourable developments in the economy. In particular, tests are typically used to assess the impact of stress on the adequacy of capital of the financial institution in hypothetical scenario.

Good profitability and adequacy of capital make up the primary buffer against shocks. In a real situation, banks can respond to a crisis by adjusting their operations, but in a stress test such measures are limited.

Operating conditions for financial institutions can change unexpectedly in ways that are not always possible to foresee even in most stringent stress tests. The financial crisis showed that the availability of funding can be temporarily disturbed even for banks with strong balance sheets. Furthermore, it also became evident that market participants may require additional capital buffers in excess of statutory minimum requirements in an environment of heightened uncertainty surrounding banks' risks.

There is not a single correct method for performing stress tests. When interpreting the results it should be noted that models producing risk estimates are based on historical relations observed between variables, and these connections may not hold in the event of a crisis. Furthermore, models based on history are not always able to account for unexpected cause-and-effect phenomena arising from financial innovations and structural changes in the financial system.

European-wide stress tests, coordinated by the European Banking Authority (EBA), are used to evaluate, among other things, the risk on banks arising from a sovereign debt crisis. These tests are primarily concerned with assessing banks' solvency. Adequate capital buffers protect against liquidity risk. Disturbances in liquidity may become pronounced, if counterparties have doubts about the resilience of a bank. The operating conditions for European banks are slightly more positive now than a year ago at the time the previous EU-wide stress tests were being conducted. For example, the macro-economic forecast by the EU Commission used as the basis of the stress scenario is more positive than last year. Furthermore, on average, banks' profitability and capital adequacy have also improved from the previous year.

Tests are expected to provide an evaluation of banks' recapitali-

sation needs and the burden of the recapitalisation on the fiscal economy. Of particular interest are banks with poor home-country fiscal conditions, an operating model vulnerable to disturbances, significant exposures to real estate or government bond risk and banks with an unsustainable funding structure.

European debt crisis is also a banking-system crisis. Problems in debt-laden countries are exacerbated by the fact that governments have not been able to withdraw from their support obligations and structural problems in the banking system have not been solved. Bank rehabilitation is indispensable in order for their funding to shift more towards market-based funding.

Because restructuring in the banking sector has been delayed, the winding-up of unviable banks has become politically challenged. One of the questions that has risen from the debt crisis is how countries will be able to manage their overgrown banking sector.

The measures taken after the stress tests are equally as important as the results themselves. Authorities must require that banks with poor stress-test performance take determined action to consolidate their capital structure. If need be, authorities must also be prepared to recapitalise such banks with public funds, subject such banks for restructuring or even wind them up.

Financial market infrastructure

For the most part, the functioning of the financial market infrastructure has been reliable and banks operating in Finland have had adequate funds to meet their payments, even during the crisis. Progress in the introduction of SEPA credit transfers has been swift, but delays in payments have been unfortunately frequent. The smoothness of payment transfers must now be addressed in order to sustain confidence in the level of service. Securities clearing and settlement systems have functioned

well, but they are also undergoing transformation. Changes will have a direct and indirect impact on the domestic capital market. It is therefore important that markets will find solutions that will best serve Finland's interests in the long term.

Ample liquidity conditions continue

Despite a few problems with night-time settlement, TARGET2 payment system has functioned smoothly. Corrective action has been taken where necessary to prevent future problems. The problems have been technical by nature and have not resulted from lack of liquidity.¹ In other words, banks have had adequate funds to meet their payments.

The Bank of Finland continually monitors counterparties' liquidity management and any changes affecting it. In autumn 2010, banks' liquidity conditions were deemed² to have remained good despite the crisis, and liquidity conditions seem to continue to be ample (Chart 22). In addition, counterparties have substantial unused collateral (Chart 23). This means that counterparties could even raise the limits of their accounts in TARGET2. Banks' available funds have been – at least on average – even substantially higher after the commencement of the crisis than before it in early 2007 (Charts 22 and 23). Strong fluctuations in the balances of RTGS accounts are

Chart 22.

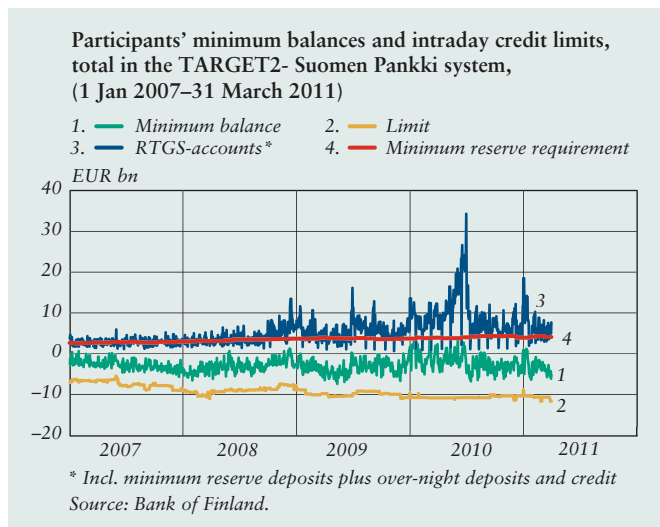
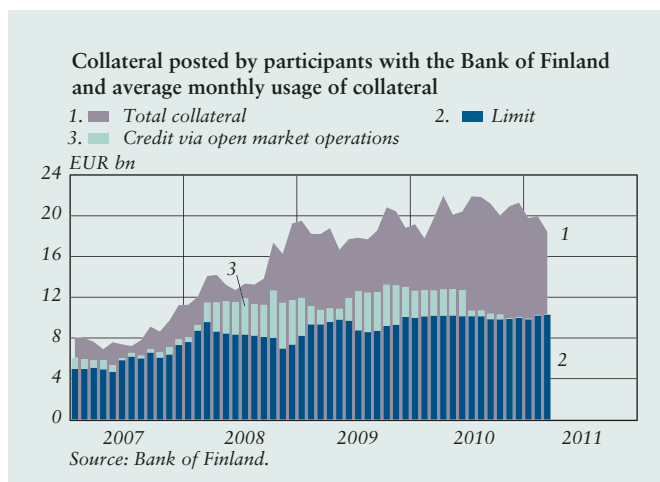


Chart 23.



¹ In this connection, liquidity refers to available funds on counterparties' central bank accounts held in TARGET2 and to collateralised limits, by which banks can obtain intra-day credit from the central bank when needed.

² For further information, please see the Bank of Finland publication Financial Stability 2010, p. 35–37.

primarily due to large fluctuations in overnight deposits. Ample liquidity is largely explained by unusual monetary policy measures taken in recent years, such as fixed interest rate and full allocation tender procedures.

The EONIA rate describes the average price of unsecured overnight loans granted by banks to each other. In a normal situation, banks balance out their liquidity primarily on these markets instead of using central bank funding. At the end of January 2011, EONIA was, for the first time in more than 18 months, higher than the minimum bid rate for the main refinancing operations. This may indicate a revival in interbank money markets. During this period, EONIA has also been more volatile than before.

Major changes in Finnish payment practices – an evaluation of the introduction of STEP2

Finnish payment practices will undergo a profound transformation in the next few years following the final phase of introduction of SEPA.³ A major milestone will be reached towards the end of 2011, when the settlement of all credit transfers will start to take place in a new pan-European settlement system.⁴ Already, approximately 65% of Finnish credit transfers are settled in this system, known as STEP2. The introduction of the new system should not weaken current services nor undermine the reliability and efficacy of payment services.

³ Single Euro Payments Area (SEPA).

⁴ The system is described in Box 5 on page 33.

The Bank of Finland's statutory task is to contribute to ensuring the reliability and efficacy of the payment and overall financial systems. Financial Supervisory Authority (FIN-FSA) is in turn charged with ensuring that the systems and procedures employed by banks in payment transfers are safe. The lead overseer of STEP2 is the European Central Bank (ECB). The Bank of Finland carries out its statutory task in cooperation with the ECB and Finnish banks as well as EBA Clearing Company, which operates STEP2. Within the harmonised oversight of the Eurosystem's retail payment systems the systems are classified into three groups in order of systemic importance: Systemically Important Retail Payment System (SIRPS), Prominently Important Retail Payment System (PIRPS) and other payment systems.

ECB has conducted an assessment of STEP2 using the six core principles governing oversight that are employed when examining prominently important retail payment systems.⁵ The assessment showed that STEP2 meets all the PIRPS criteria. In December 2008, STEP2 introduced TARGET2 settlement services for SEPA transfers. The oversight assessment carried out on this switchover also addressed night settlement, which is employed for example for time-critical Finnish recurrent transfers, such as the payment of salaries and pensions.

The Bank of Finland is of the opinion that all nationally critical payment and settlement systems should

⁵ For further information, please see www.ecb.int/paym/pol/payover/retail/html/index.en.html.

be classified as systemically significant on the European level. Because the majority of domestic payment transfers will be settled in STEP2, STEP2 should be regarded as systemically significant and, therefore, all ten oversight standards recommended by BIS should be applied to the oversight of STEP2. Within the Eurosystem, work is already underway regarding updating the oversight requirements concerning retail payment systems to conform to the changes brought about by SEPA. Key challenges for Finland with respect to the introduction of STEP2 relate to the oversight principles of safe and reliable operations and governance.

Safety and reliability

Built together with an Italian payment system provider (SIA-SSB S.p.A),⁶ STEP2 is managed by a consortium of European banks known as EBA Clearing.⁷ STEP2 was established in 2003, SIA-SSB S.p.A provides the services of its computing centres for STEP2, which handles euro-denominated cross-border and national payment transfers. In addition to the actual settlement system, STEP2 has a back-up system, and contingency plans are in place for both of these. Transfer from one system to another has been structured in such a way that no data can be lost or duplicated. Banks operating in Finland utilise the messaging services of the international SWIFT system⁸ for transmitting payments to STEP2.

⁶ See www.siassb.eu.

⁷ See www.ebaclearing.eu/.

⁸ See www.swift.com/.

In principle, the security and reliability of STEP2 are good. However, some corrective measures are still needed to ensure the safety and reliability of Finnish payment transfers, as there have been numerous irregularities in Finnish night settlement.

Governance

The operations of EBA Clearing, which manages STEP2, are subject to French legislation. EBA Clearing is owned by members of EURO1 (67 banks throughout Europe). Activities between the members are subject to German law. Germany has also notified the European Commission of the fact that STEP2 is subject to its legislation on the finality of payments.⁹ EBA Clearing is managed by a board of 15 members appointed by shareholders for a term of three years. A representative of banks operating in Finland sit on the board. The company's daily business, carried out in six departments, comes under the overall responsibility of the company's CEO. The departments are supported by advisory groups, which are the member banks' channel for involvement in the company's activities. Further information is available from public sources.¹⁰ The management of STEP2 is organised in an acceptable manner.

Even though the governance of STEP2 is organised well, governance of Finnish payment transfers must, however, be reviewed separately to guarantee the quality domestic

⁹ For further information, please see http://ec.europa.eu/internal_market/financial-markets/settlement/dir-98-26-art10-national_en.htm.

¹⁰ See www.ebaclearing.eu.

Processing of SEPA credit transfers in STEP2

The move over to the Single Euro Payments Area (SEPA) – ie to the use of a single set of payment instruments – is progressing rapidly in Finland. In March 2011, SEPA credit transfers already accounted for as much as 65% of total interbank credit transfers. The corresponding figure for euro area retail payment systems was 16% in February (Chart A).

Banks operating in Finland have chosen the STEP2 system of the European EBA Clearing, which they had already been using for processing cross-border payments in the EU, also for domestic SEPA payments. As SEPA credit transfers will replace domestic credit transfer by the end of 2011, the long-used Finnish interbank retail payment system (PMJ) will lose a great majority of its transactions. In few years the PMJ will no longer be used at all, since national direct debits will also be discontinued.

The processing of payment transfers in STEP2 begins with the customer placing a payment order with his bank and ends with the funds being credited to the recipient's account (Chart B). The bank directs payments addressed to other banks' customers to STEP2. On the basis of payment information, STEP2 calculates each bank's net credit or debit positions and delivers the information to TARGET2 where interbank payments are settled. After receiving a confirmation of

settlement, STEP2 transmits the payment information to recipient banks that credit the recipients' accounts.

Payment data batches are transmitted to STEP2 and settlements are effected several times a day. The majority of Finnish payments are processed during the night so that the payments can be made to recipients already before bank opening hours. If there are problems with the fully

automated night-time processes, crediting of customer accounts will be delayed. There have been several such delays during the SEPA migration phase, sometimes due to banks own systems and sometimes due to problems with STEP2 or TARGET2 systems.¹ However, the delays have not endangered the execution of payments.

¹ STEP2 oversight assessment is presented in this issue on page 29.

Chart A.

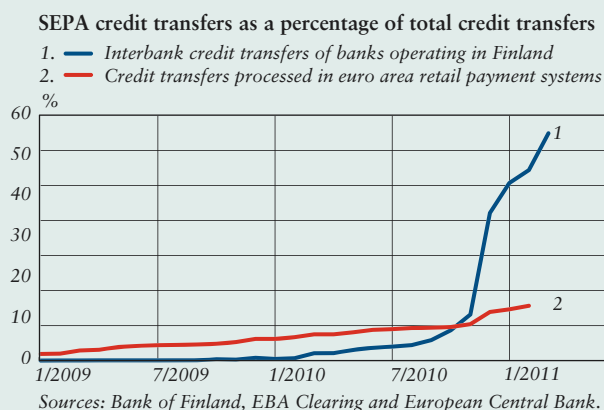
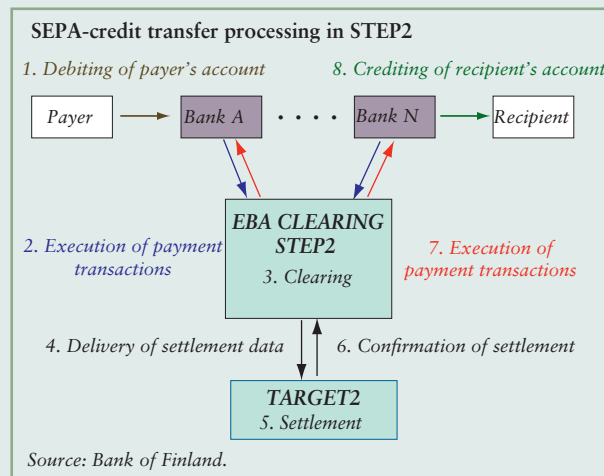


Chart B.



payments as a whole. Payment transfers are a network activity, where each counterparty has to act as agreed. The reliability of the entire value chain involved in transferring payments must be ensured and its risks managed.

Securities systems under transformation

Overall, operations of key providers of securities markets services to Finnish investors – the Helsinki Stock Exchange, the central counterparty and the Finnish Central Securities Depository – have been reliable. On 4 April 2011, NASDAQ OMX Helsinki opened a new alternative trading channel for growth companies known as First North Finland. Finnish companies did not find it attractive when it operated from Sweden. An alternative trading channel enables the provision of a wider selection of channels of funding for growth companies.

Ownership rearrangements of major international stock exchanges continue as operators are seeking best structures. The most recent example involves NYSE Euronext. Stock exchange rearrangements may affect post-trading structures due to their impact on the competitive standing of central counterparties and central securities depositories.

The central counterparty serving the Finnish market is European Multilateral Clearing Facility N.V. (EMCF) from Holland. Thus, primary responsibility for the operations of the central counterparty lies with the Dutch authorities. Two other central counterparties have also shown interest

towards the Finnish market, and their entry into the market would enhance competition. The provision of services can only be started once the risk management of CCP links, particularly management of risk, is at an acceptable level. The Bank of Finland and FIN-FSA contribute to the joint supervision of current and future possible central counterparties.

Some disturbances have been experienced at the Finnish central securities depository Euroclear Finland (EFi), but they have not been serious. The Bank of Finland is currently evaluating EFi's money market clearing system using the central bank's user requirements.¹¹

Euroclear Finland has examined different alternatives to make its operations more effective through system changes. The alternatives examined include the use of Irish and UK IT platform, the merger of Swedish and Finnish platforms and development of existing own systems. Markets have also been consulted in the matter. The alternative that is now pursued is the development of own current systems to make them compatible with international standards.

Other projects affecting securities markets include forthcoming EU legislation,¹² especially with respect to central counterparties, central securities depositories and securities accounts, as well as the joint central bank project to

¹¹ Standards for the use of EU securities settlement systems in ESCB credit operations.

¹² Proposal for a regulation on derivative transactions, central counterparties and trade repositories, Proposal for a regulation on central securities depositories, Proposal for a Securities Law Directive.

create a common clearing platform for securities trading known as TARGET2-Securities (T2S). The legislative projects create a uniform regulatory framework and promote a level playing field. The new projects contribute to market stability by creating a common minimum level for regulation and establishing cooperation procedures between different authorities.

The most important legislative project in Finland is the overall reform of securities markets legislation, on which a Ministry of Finance working group gave its concluding report in February 2011. The working group's proposal would serve to harmonise the regulatory system that has become rather fragmented over the years and improve competitiveness of the Finnish securities market. Preparation continues between authorities and the legislative proposals are being circulated for comments. The final government bill is scheduled for introduction to the parliament in spring 2012.

The T2S project is progressing according to plan, and the new clearing platform is scheduled to be introduced in autumn 2014. The last major decisions concerning pricing, administration and contracts will be made shortly, after which the central securities depositories will make the final decision whether they will join the T2S clearing platform. The Finnish securities market is investigating what would be the most effective way, in terms of technical solutions and costs, of joining the T2S platform. Joining requires changes in working procedures and systems by different market participants.

The changes currently taking place are significant on both domestic and international securities markets. They will have a long-term impact on the operating conditions of the domestic capital market, which means that the measures that will need to be taken must be examined with particular care. It is important to have an understanding of both the direct and indirect impact of the changes. Different parties, independently and together with other operators, must examine the changes and their impact on their operating conditions in order to find operating models that would best ensure the development, competitiveness and stability of the Finnish securities market.

Financial system policy

National authorities need to have at their disposal effective discretionary national policy tools that can be deployed rapidly to intervene in the build-up of national systemic risks. The EU framework for banks' crisis management currently being prepared is expected to better equip authorities to intervene in the operations of a failing financial institution at a sufficiently early stage.

The latest financial crisis resulted in huge financial and human costs globally. The collapse of output and entailing growth in public debt will burden taxpayers possibly for decades ahead. Millions of people have lost their jobs as a result of the crisis, and in a number of countries it is still not over.

To prevent such crises in the future, authorities should more accurately identify systemic risks to the financial system that have a low probability of realisation but will be catastrophic if realised (tail risks) and intervene in them well in advance with effective policy measures. In performing this

task, macroprudential policy and the authorities responsible for it will occupy a key role.

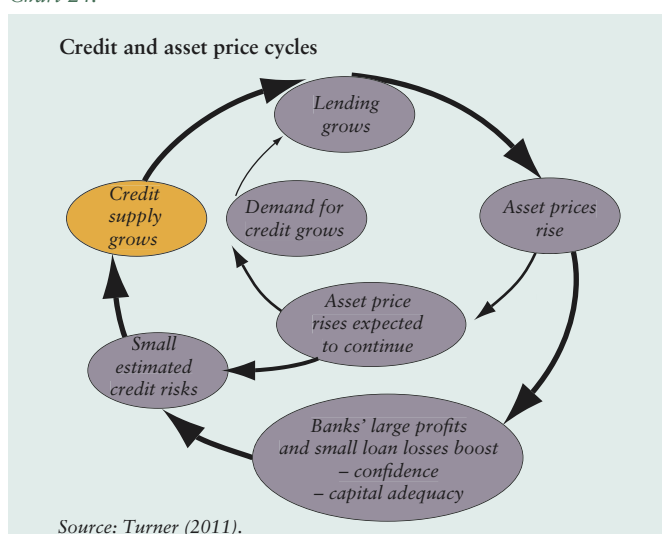
Macroprudential policy should protect the entire economy, not just the financial system

Macroprudential policy can be defined as the use of mainly existing regulatory tools with the explicit and primary objective of preventing systemic risks created within or enforced by the financial system, the realisation of which would have a serious adverse effect on the real economy. In light of economic history, typical systemic risks are excess growth in bank lending and the loosening of credit standards during the upswing of the financial cycle, resulting in excessive household and corporate debt (Chart 24). Reckless borrowing and lending lead to loan losses later on, a decline in lending and, in the worst case, a banking crisis and economic recession.

The adverse effects of strong credit cycles can be prevented by countercyclical financial regulation that either enhances the ability of individual financial institutions or the entire financial system to withstand crises or is used to constrain excessive credit growth and accumulation of debt. The constraining of credit cycles has thus far proven difficult. Authorities have lacked the tools and political courage to prevent the occasional overheating of the financial system (ie to 'take away the punch bowl just as the party is warming up').

The primary objective of macroprudential policy should not be limited to

Chart 24.



improving the banking system's ability to withstand crises. Authorities should also have the means and mandate to constrain excessive credit growth, accumulation of debt and rises in asset prices. In other words, international efforts to strengthen banks' capital and liquidity buffers are necessary, but they are not sufficient to prevent financial crises.

In many financial crises, the biggest problem is not the collapse of banks' lending capacity but households' and companies' need to curb consumption, investments and the accumulation of debt. Therefore, macroprudential policy measures should not be targeted only at the supply side of credit; if necessary, they should also target factors that are directly linked to the demand for credit.

Authorities need discretionary macroprudential tools

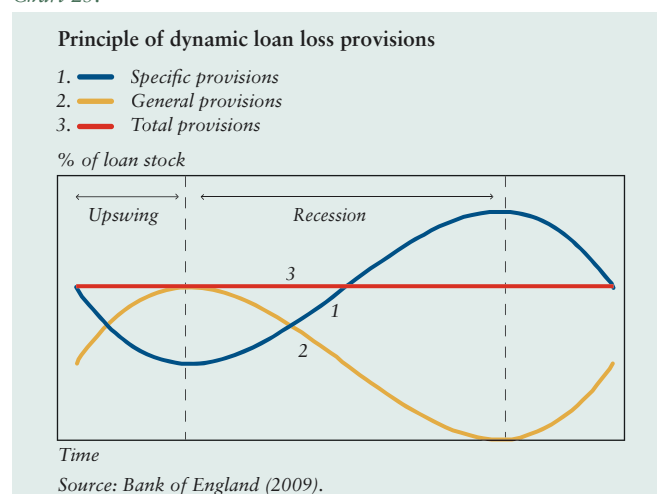
Macroprudential policy tools can be divided into fixed and variable. Fixed tools are financial regulations that have a countercyclical and permanent effect on banks' profitability or capital adequacy and do not require new policy decisions. The purest example of this type of regulation is the requirement for dynamic loan loss provisioning introduced in Spain: banks are required to build up unallocated general provisions for loan losses during an upswing and reduce them during a downturn (Chart 25). The purpose is to mitigate the procyclicality of banks' loan loss accounting, profitability and lending.

The international regulations on loan loss accounting are being revised to reduce their procyclical effect. The

general view, however, is that the reform will mitigate the procyclicality of accounting regulations only slightly. The national countercyclical capital buffer requirement of the Basel III framework, the extensive global reform of banking regulation, is also partly rule-based, as national authorities are expected to use an indicator developed by the Basel Committee on Banking Supervision when defining the buffer requirement. The procyclicality of banks' capital requirements is also being mitigated by the requirement on banks to use more conservative parameters in calculating capital requirements for their trading books.

Several other recent reforms of financial regulation will also contribute to reducing systemic risks and the procyclicality of the financial system even though their primary purpose is to improve the risk-bearing capacity of individual financial institutions. For example, the leverage ratio and net stable funding ratio included in Basel III restrict banks' scope for building up their

Chart 25.



balance sheets and resorting excessively to short-term funding, and could thereby help to dampen growth in lending.

The new rule-based macroprudential tools introduced via international regulation and other regulatory reform already implemented or currently being prepared are, however, not enough. National authorities responsible for macroprudential policy also need to have at their disposal effective discretionary national policy tools that can be deployed rapidly to intervene in the build-up of national systemic risks.

Most of the largest financial and banking crises are caused by the overheating and collapse of the housing market. Due to structural factors, the Finnish housing market is exposed to high price volatility.¹ Finnish authorities responsible for macroprudential policy should have stronger tools to respond, if necessary, to an excessive rise in

¹ Structural factors include the use of short-term market rates as housing loan reference rates, rigidities in housing supply, strong internal migration, particularly to the Helsinki region, and tax relief on housing loan interest.

housing prices. If necessary, they should, for example, be able to control the maximum size of housing loans with more binding restrictions on the maximum housing loan-to-value ratio, and possibly also households' maximum debt-to-income ratio. Other promising tools for cooling the housing market include discretionary changes in the risk weights of lending for house purchases used in banks' capital adequacy calculations (Table 1).

National organisation of macroprudential policy

The authorities of most countries, including Finland, do not currently have sufficient powers to use financial regulation tools – eg capital adequacy requirements for banks – to prevent macroprudential threats. An agreement must be reached on the national organisation of macroprudential policy to ensure sufficient powers.

The countercyclical capital buffer requirement for banks included in the Basel III reform and the EU's Capital

Table 1.

Examples of possible macroprudential tools	
Primary objective	Tools
Accumulation and release of countercyclical buffers	Countercyclical capital and liquidity buffer requirements, dynamic loan loss provisions, countercyclical leverage ratio
Restrict credit growth	Restrictions on the size of customer credit or banks' lending growth, changes in the risk weights used in capital adequacy calculation
Discourage banks' short-term funding	Taxation of short-term funding, restrictions on minimum valuation haircuts applied to collateral in connection with collateralised lending
Reduce banks' general risk-taking incentives	Risk-based deposit insurance premiums, bonus taxes
Regulations based on a bank's systemic importance	Capital adequacy requirements or bank taxes based on a bank's systemic importance

Source: Bank of Finland.

Adequacy Directive is set to be introduced gradually from 1 January 2016. Under future regulations, national authorities may impose on banks an additional capital buffer requirement to a maximum of 2.5% relative to their risk-weighted assets, if the authorities consider that the total lending to the private sector is dangerously high. It is up to national authorities to decide which authorities will decide on the imposing and cancelling of this buffer requirement.

Authorities also need mandates and tools to implement possible policy recommendations issued by the European Systemic Risk Board (ESRB). When the ESRB was established, it was decided that implementation of policy measures and national organisation of macroprudential policy will be the responsibility of each Member State. In most European countries, the organisation of macroprudential supervision is still at the planning stage or has otherwise not yet been completed.

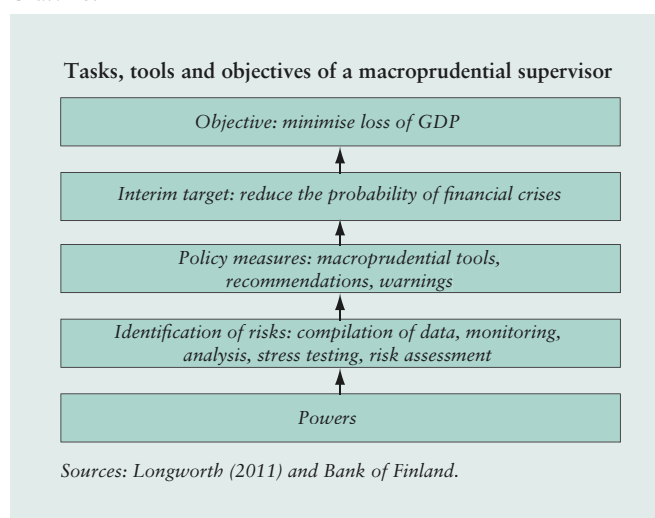
According to international recommendations, each country should identify a body or authority that is responsible for macroprudential supervision and whose primary task is to identify systemic risks created within or reinforced by the financial system and use its mandate and policy tools to combat these risks. The macroprudential supervisor can be an existing individual authority (eg central bank or financial supervisor) or a macroprudential committee consisting of several authorities. Most international recommendations underline the strong role of central banks in national macroprudential policy. Macroprudential policy also

needs the support of an extensive information network and strong coordination between all key authorities.

The macroprudential supervisor does not necessarily have to be responsible for the use of macroprudential tools, but it must have the powers to issue either non-binding recommendations (possibly on the principle of comply or explain) or binding regulations on authorities that use these tools.

Macroprudential tools are countercyclical in nature and will therefore probably be highly unpopular in practice: the tools will be deployed during the expansionary phase of the financial cycle, characterised by a strong rise in asset prices and better availability and terms of financing. To ensure that macroprudential policy will significantly reduce the likelihood and effects of financial crises, the macroprudential supervisor should be given a sufficiently strong mandate and legitimacy to implement measures that will possibly be highly unpopular (Chart 26).

Chart 26.



New framework for crisis management in the financial sector awakens huge expectations

In October 2010, the European Commission published a communication on a new EU framework for banks' crisis management, which has since been taken forward.² The Commission will issue a proposal for a Directive in June 2011.

The Commission's plan for a crisis management framework includes many new features. The new way of thinking is probably most evident in the planned preventative measures by authorities (eg transfer of the assets of a troubled bank and powers to restrict lending) and powers to intervene early, under which authorities could intervene more directly in the operations of a failing bank. The new powers would significantly increase authorities' chances of intervening in a failing bank before it is too late. Another aim is to reform the regulations on the liquidation and restructuring of banks. If the Commission's plan is approved, failing banks could be liquidated more easily without causing significant harm to financial stability or major costs for taxpayers.

The crisis management framework planned by the Commission clearly shows that the liquidation and insolvency legislation on traditional business operations is not considered sufficient in the case of banks; special regulations and tools are required for the financial sector to solve these problems. The Commission's message is

clear: no bank is too big to fail, and, in future, banks will no longer be bailed out by taxpayers.

The new crisis management framework is however extremely challenging to implement, both politically and legally. For example, there are fairly differing views on the scope of the crisis management framework and who has the decision-making powers in cross-border crises involving banks. The planned framework also includes a number of special issues concerning protection of creditors and shareholders that will be hard to resolve.

We can never hope to completely prevent a bank from running into severe problems. It is therefore important that authorities are able to restrict the spread of problems into other sectors of the financial system and into the real economy. A common EU framework for crisis management is thus badly needed, because, without a functioning framework, the restructuring and/or insolvencies of large banks place an unreasonable cost burden on society.

It is important that regulatory measures are coordinated efficiently in crisis situations involving cross-border, systemically important banks. The goal should be to achieve common solutions, but as long as the issues concerning the sharing of costs remain unresolved, the transfer of national decision-making power (even partly) to joint bodies is highly unlikely.

In the drafting of new legislation, current legal principles should be taken into consideration as far as possible. It is, however, impossible to build a new

² For more information on the Commission's proposal, see Bank of Finland Bulletin Special issue 2010 – Financial Stability.

type of system without amending current rights and obligations. The weak functioning of the current system was demonstrated during the recent financial crisis, and there is no reason to replicate the structural deficiencies in the new system.

The European Commission has set ambitious targets for the new crisis management framework. The Bank of Finland has supported the Commission's plan and considers it an important contribution to fostering financial stability.

Special issues of financial market infrastructure

Harmonised EU-wide regulation of securities market infrastructure was at the consideration phase for a number of years. Thus far, market participants have been subject to national regulation, even though competition has been liberalised in many respects. The financial crisis speeded up a number of regulatory initiatives, and currently the entire value chain of securities trading, clearing and settlement is undergoing regulatory reform. A harmonised regulatory framework is welcome, as it provides market participants with a level playing field irrespective of the country where they are located, and it also reduces the possibility of regulatory arbitrage. Regulatory initiatives also promote market integration and open up competition. A uniform regulatory framework must also leave space for specialisation and innovation.

The new supervisor of securities markets, the European Securities

Markets Authority (ESMA) commenced operations on 1 January 2011. One of the first key tasks of the new authority is to create specific technical standards on infrastructure. Previously, these types of recommendations were prepared in cooperation between the European System of Central Banks and the predecessor of ESMA, the Committee of European Securities Regulators (CESR, ESCB–CESR recommendations 2009). As central counterparties and central securities depositories are critical infrastructures, so central banks, too, have a strong interest in participating, in cooperation with supervisors, in the creation of specific technical standards.

The Directive on markets in financial instruments (MiFID) concerning securities trading is being reviewed, and the next step in the securities trading chain (the operation of central counterparties) will be subject to a regulation on European market infrastructure.³ One of the key regulatory initiatives is the regulation of central securities depositories,⁴ which will affect not only central securities depositories but also eg Finnish issuers of securities. One of the aspects of the proposal is the right of the issuer to choose the location of issuance, irrespective of the domicile of the company. In addition, the regulation would facilitate central securities depositories' provision of cross-border services. The changes could enhance competition

³ Proposal for a regulation on derivative transactions, central counterparties and trade repositories.

⁴ Proposal for a regulation on central securities depositories.

between central securities depositories, but it could also result in an even deeper concentration of activities. In a small market like Finland, strong concentration could lead to a withering of services and a dependency on foreign operators. On the other hand, Finnish market participants should consider this an opportunity to provide efficient services and know-how to new markets.

Given that central securities depositories are systemically important market infrastructures, they should be subject to specific harmonised regulation that addresses the specific nature and risks of their activities. At the same time, care should be taken to ensure that regulation does not form too high a barrier to market access. A lack of competition easily leads to a situation in which efficiency and customer needs are forgotten. If the operations of central securities depositories in Europe develop into a natural monopoly or oligopoly, the authorities must ensure that the central securities depositories do not misuse their power in the market.

The working group involved in the total revision of the Securities Markets Act of Finland published in February 2011 a report which proposes several legislative amendments. One of the aims is to have securities markets legislation that supports Finnish competitiveness and reduces the number of national specificities. The working group has, therefore, prepared a legislative proposal permitting multilayer holding of securities for Finnish investors. In other European countries, the multilayer holding regime

is already extensively applied, and in several countries customers are permitted to choose between different account models. This change in legislation would further the equal treatment of domestic and foreign investors investing in Finnish securities.

Expanding companies need the support of a reliable and efficient capital market. The Finnish capital market is anaemic: the number of listed companies and institutional investors is small. The development of the Finnish capital market and safeguarding its viability require urgent attention, as changes do not happen overnight. One approach could be to increase the appreciation of Finnish ownership and provide incentives for direct equity investment by Finnish households. A report by the Finnish Foundation for Share Promotion (Towards a national strategy for capital markets ‘Kohti kansallista pääomamarkkinastrategiaa’, in Finnish only) proposes a number of initiatives for both market participants and authorities.

The role of Finland in European integration and contingency planning

As a result of European integration, payment system and securities infrastructures in Finland are gradually migrating abroad. This is a natural development, since the markets are increasingly international. Large market participants use economies of scale to conquer market share. In the light of current developments, the role of Finland in the European infrastructure landscape is not to manage continental

or global bulk systems. Under normal conditions, it is quite irrelevant whether one uses a domestic or foreign infrastructure if their level of services is at least as high as the current level of services in the Finnish market. Payments in Finland have, however, recently suffered delays due to disruptions in pan-European payment systems. In contrast to other European countries, Finnish salaries and pensions arrive in the recipients' bank accounts sometime after midnight. Thus far payments have been delayed by a few hours, and the funds have been transferred to the customers' accounts during the course of the day. However, disruption to a critical system lasting several days could, in the worst case, paralyse payment flows throughout Europe. It could take days to restore normality. Current contingency arrangements are insufficient if threats like these were to materialise; they need to be updated to correspond to the changes in the operating environment.

The regulation of systemically important financial institutions is tightened

Regulation and supervision of systemically important financial institutions (SIFIs) is being substantially tightened. The aim is to avoid a situation in which a financial institution's collapse could endanger the stability of the financial system as a whole, with the costs of the collapse being borne by taxpayers.

Measures discussed include restrictions to the size and scope of banking activities, bank levies, enhanced bank crisis management (see p. 40–41) and bail-in capital.¹ Above all, however, it is proposed that SIFIs would be subject to more stringent capital requirements as part of Basel III. The Basel Committee on Banking Supervision (BCBS) will present its proposal on stricter capital requirements for financial institutions that are systemic in global context (G-SIFIs) at the end of 2011.

The work to determine systemically important financial institutions has not yet been finalised. The Financial Stability Board (FSB) is to draw up a list of banks identified as G-SIFIs for the G20 Summit to be held in summer 2011. It has been estimated that the list will consist of 20–30 institutions. The FSB is also to determine a more extensive list of SIFIs.

However, some countries have already drawn their own

conclusions on capital requirements for SIFIs. Last year, Switzerland announced that UBS and Credit Suisse will be subject to considerably tighter requirements than other banks.² For these two banks, minimum capital relative to risk-weighted assets should be 19%, of which 9% can consist of contingent convertible bonds (CoCos). Sweden is also considering more stringent capital requirements than those set by Basel III and a faster timetable for implementing its requirements.³ The suggested minimum capital requirement for large Swedish banks is 15–16%, of which 10–12% should consist of core Tier 1 capital. It is possible that CoCos would also be allowed in Sweden.

The main underlying cause for Switzerland and Sweden's decisions is the large size of the banking sector in these two countries. In Switzerland, credit institutions' total assets at home and abroad in relation to GDP are close to 700%, and in Sweden the relative ratio is over 400%.⁴ Excluding Swedish banks' foreign subsidiaries such as Nordea Bank Finland, the asset-to-GDP ratio for Swedish

credit institutions is 320%.⁵ Over half the operations of Swedish banks take place abroad, and the Swedish authorities are concerned about the risk exposures associated with the Baltic States in particular.

The Finnish banking sector is much smaller than the Swedish banking sector. Including foreign banks' subsidiaries located in Finland, credit institutions' total assets relative to GDP are 225%. As Finnish banks operate largely in domestic markets, exposure to risks stemming from other countries tends to be reduced.

The Basel III regulations are recommendations that set an international minimum level for banks' capital adequacy and liquidity regulations. The Bank of Finland considers it justifiable that each country can set more stringent requirements for their banks than those required by Basel III to safeguard the stability of their national financial system. However, large differences in national regulations would distort the level playing field for banks and accelerate harmful regulatory arbitrage. It is important for regulation to be as harmonised as possible, especially in strongly integrated banking markets such as the Nordic countries.

¹ See the Bank of Finland's *Financial Market Report 1/2011*, which also discusses contingent convertible bonds.

² *Final report of the Commission of Experts for limiting the economic risks posed by large companies (September 2010)*.

³ *Finansinspektionen (4 March 2011)*.

⁴ *Sveriges Riksbank (2010) Financial Stability Report 2010/2*

⁵ *EU Banking Structures, September 2010, European Central Bank*.

The shadow banking system is here to stay

Like traditional banks, the shadow banking system, too, is responsible for credit intermediation,¹ ie maturity, credit and liquidity transformation. The shadow banking system does, however, differ from traditional banking in three key ways.

Firstly, in the shadow banking system, credit intermediation is broken down into discrete intermediate steps for which individual entities are responsible (Chart B). Moreover, loans are not held on the balance sheet for the entire maturity of the loan (originate-and-hold model); they are, instead, resold and securitised (originate-and-distribute model).² One reason for the long intermediation chain and the large number of entities are the efficiency gains achieved through specialisation. The model has also been accused of deliberately creating complexity to mask the poor quality of the original loans.

Secondly, shadow banking is not funded by retail deposits, but by short-term market funding. The system is funded by eg money market funds, and all entities participating in the process are particularly dependent on the markets for

repurchase agreements (repos). Shadow banks have not had a safety net provided by deposit guarantees, or access to central bank liquidity. Some shadow banks have, however, enjoyed indirect access to a safety net via the traditional banks interconnected with them. These indirectly enhanced liabilities have under normal circumstances been off-balance-sheet assets.

Thirdly, the regulation of shadow banks has been extremely lax compared with that of traditional financial institutions.

The shadow banking system is of a significant size

The shadow banking system in the United States is estimated to have been larger than the country's traditional banking system (Chart A). In the pre-crisis period, all major

European banks participated in shadow banking, as investors.

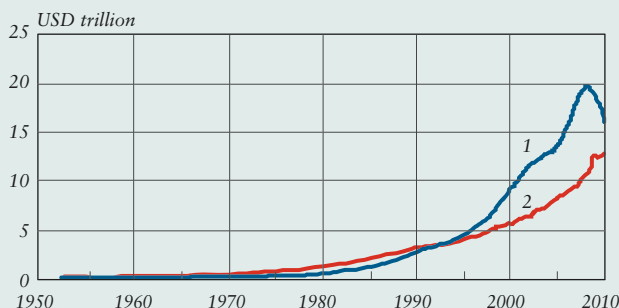
The emergence of the shadow banking system was facilitated by financial innovations. Institutions that were independent of banks and specialised in specific credit intermediation activities were often more efficient than traditional banks. As a result of tight competition in the various steps of credit intermediation (Chart B), traditional banks also took up shadow banking activities in the hope of higher returns.

The incentives underlying the emergence and growth of shadow banking are unlikely to disappear. There is reason to assume the system is here to stay. This assumption is supported by the underlying components of demand, the surpluses caused by global imbalances and investors'

Chart A.

Shadow bank liabilities and traditional bank liabilities in the United States

1. — Shadow bank liabilities
2. — Traditional bank liabilities



Source: Pozsar et al., (2010), *Shadow Banking*, Federal Reserve Bank of New York Staff Reports.

¹ For example Pozsar et al. (2010) and the Financial Stability Board, FSB (12 April 2011) *Shadow Banking: Scoping the Issue*.

² The model was introduced in the United States nearly 80 years ago, in the government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac.

and financial institutions' pursuit of returns.

Regulation and supervision of the shadow banking system

During the financial crisis, a new form of bank run emerged: a sudden drying-up of short-term market funding. There has therefore been discussion over whether a safety net such as the system of deposit guarantees should be extended to cover market-based funding. However, a reasonable approach to reduce

the threat of market paralysis is through the regulation of money market funds in particular, securitization and repo markets.

In the United States and Europe, a certain portion of money market funds' assets must in future be in highly liquid and high quality securities. Securitizers are required to retain 5% of the credit risk on their balance sheet. Proposals have also been made for the tightening of rules concerning the collateral used in securitisation and repos as well

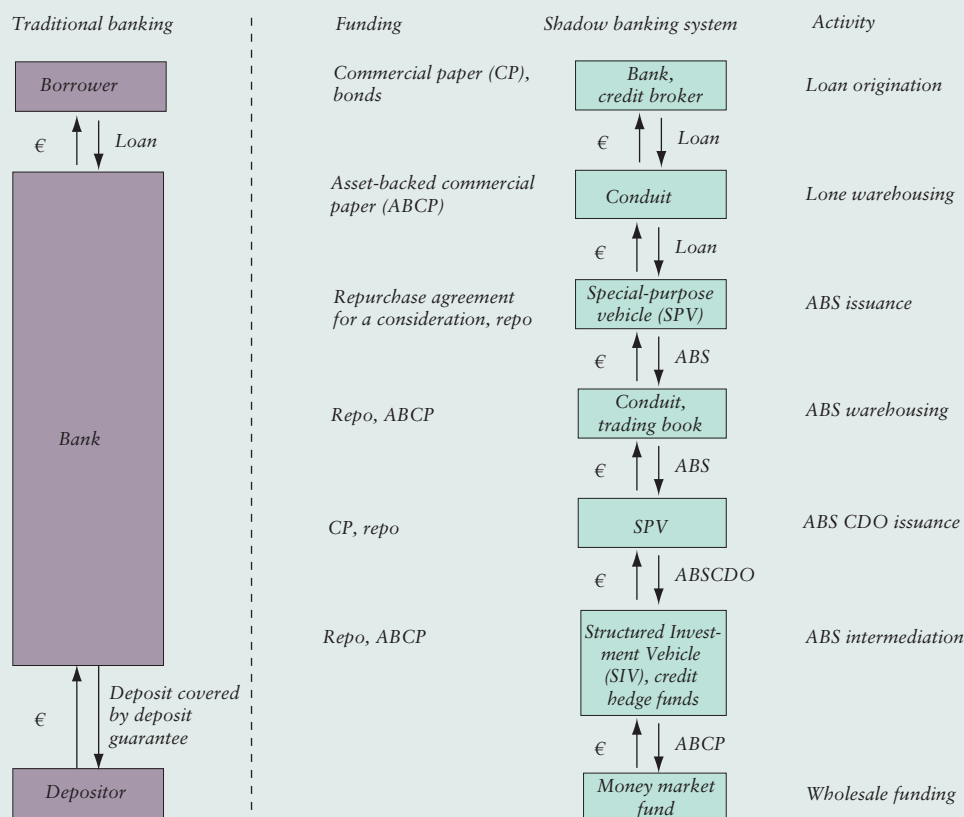
as for a larger haircut on the required collateral.³ The regulation and supervision of credit rating agencies has already been tightened,⁴ which improves the quality and transparency of credit ratings.

³ Hanson et al. (2010), Gorton – Metrick (2010).

⁴ Credit rating agencies operating in the EU are required to register and comply with a strict code of conduct in order to prevent conflicts of interest, to ensure the quality of credit ratings and the transparency of the rating process. The European Securities and Markets Authority (ESMA) will be granted extensive supervisory powers.

Chart B.

Traditional banking and shadow banking system: simplified structure



Sources: Pozsar et al. (2010) and Bank of Finland.

The financial crisis also showed that a division into regulated financial market activities and a shadow banking system that is subject to less stringent regulation may aggravate the consequences of a financial crisis. In good times, assets were transferred to the shadow banking system but with the onset of the financial crisis, the flow of assets turned suddenly and unexpectedly. Even though the purpose of securitization was to spread the risks off the banks' balance sheets, a significant portion of the risks returned to the balance sheets of traditional banks, as the situation escalated. In other words, traditional banks were often the real guarantors of shadow banking operations.

The interplay of traditional banking and shadow banking can be controlled in a number of ways. Tighter capital requirements, in particular for systematically important financial institutions, reduce the risk of contagion between banks and the shadow banking system.

Alternatively, banks' operations can be restricted. In the United Kingdom, the Independent Banking Commission chaired by Sir John Vickers is proposing a separation between retail and investment banking in systemically important financial institutions. In the United States, the new Dodd–Frank Wall Street Reform and Consumer Protection Act

includes an abridged version of the Volcker Rule. Banks are prohibited to engage in proprietary trading and their investments in hedge funds may not exceed 3% of the Tier 1 capital.

The most significant challenge of separation and restrictions is defining the line between shadow banking and traditional banking. Rigid regulation encourages regulatory arbitrage, thereby creating distortions. The restriction of activities can also lead to overly uniform business models. This increases the vulnerability of the system, due to entities similar reaction to shocks. Against this background, the proposal that capital requirements for financial institutions should be defined based on the scale of their shadow banking activities sounds attempting.⁵ A suitable indicator may however be difficult to find.

The transparency of the shadow banking system has already been improved to some extent.⁶ Inspired by tighter regulation and with the help of financial innovations, new 'arms' can be expected to appear in the shadow banking system. The

regulatory process is probably too slow to extensively reduce the risks related to the shadow banking system. Macroprudential supervision thus plays a key role in identifying the risks of shadow banking.

To restrict the possibility of regulatory arbitrage, the supervision of shadow banking should rather focus on the economic substance than on the legal form of an entity. The timely identification of new high-risk forms of shadow banking and comparison of them to existing operating procedures requires a deep understanding of financial innovations and markets. Another major challenge is to identify the systemic risks involved in shadow banking. Access to information must be ensured to enable the creation of reliable indicators of the extent and nature of shadow banking. The macroprudential supervisor – both at the national and the European level – has a natural role in performing this task.

⁵ Goodhart (2010) *How should we regulate bank capital and financial products? What role for 'living wills' in The Future of Finance. The LSE Report.*

⁶ *The codes of conduct on derivatives trading have been clarified. OTC products will be standardised and their clearing will be centralised. The disclosure requirements on non-standardised derivatives will be tightened.*

Appendix

Infrastructure critical to the Finnish financial market

System	Description	Oversight responsibility	Assessment
TARGET2	Eurosystem technically centralised RTGS-system based on a single shared platform.	ECB (lead overseer), Eurosystem.	In 2009, the ECB Governing Council approved the first comprehensive assessment of system design and implementation in accordance with the Core Principles. The system's continuity planning has been assessed as fulfilling the set requirements. Operations have been reliable.
TARGET2-Suomen Pankki-system	Bank of Finland TARGET2 component system.	Bank of Finland oversight; adherence to common principles with other Eurosystem TARGET2 participants.	A risk assessment of the system was undertaken in 2009. Operations have been reliable.
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 settlement in euro), G10.	System operations cover 17 currencies and have expanded to include settlement of OTC credit derivatives traded outside the stock exchange. Self-assessment of CLS in 2007 established that the system fulfils the Core Principles. Operations have been mainly reliable. Heightened importance in the management of risks relating to foreign exchange transactions during the financial market turmoil.
EBA Euro1	EBA Clearing's transfer system for euro-denominated large-value payments.	ECB (lead overseer), Eurosystem.	Assessed in 2001 as being in accordance with the Core Principles. Found to be a systemically important large-value payment system. An assessment of the system's continuity planning performed in 2009. Overall, the system fulfilled the requirements. A comprehensive oversight assessment undertaken in the course of 2010. Operations have been reliable; no significant disruptions. EURO1 started to provide settlement services as a TARGET2 ancillary system in June 2010.
POPS	Banks' online system for express transfers. Domestic large-value payment system.	Bank of Finland oversight.	Assessed in 2004 as being in accordance with the Core Principles and fulfilling the requirements. An assessment of the system's continuity planning performed in 2009. No flaws identified. Operations have been reliable. Number of payments is declining.
EBA STEP2	Pan-European automated clearing house (PEACH) for euro-denominated bulk payments.	ECB (lead overseer), Eurosystem.	Considered a prominently important retail payment system. Operations have been relatively reliable. In the future, a systemically important retail payment system for Finland. The Bank of Finland takes an active part in cooperative oversight with the ECB and EBA.
PMJ	Domestic retail payment transfer system; operates as an ancillary system to TARGET2.	Bank of Finland oversight.	Assessed in 2004 as being in accordance with the Core Principles and fulfilling the requirements. Critical system for domestic retail payments. An assessment of the system's continuity planning was performed in 2009. Some disruptions of night-time clearing in 2010, causing delays in recurrent payments. Transfer of payments towards EBA STEP2 in response to introduction of SEPA.
ACH Finland	A clearing house set up by some Finnish banks. Operations started in March 2009.	Bank of Finland oversight.	System oversight in progress. An assessment of the system's continuity planning performed in 2009. Oversight assessment to be completed in 2010. Operations have been reliable.
European Multilateral Clearing Facility, EMCF	Provider of central counterparty clearing services to the Nordic stock exchanges of NASDAQ OMX.	An oversight group coordinated by the Dutch authorities.	Monitored and assessed jointly by national oversight and supervisory authorities. The Bank of Finland participates in this group.
Euroclear Finlandin (former APK) systems	A Central Securities Depository operating settlement systems for stock and money market instruments.	Bank of Finland oversight.	Operations have been reliable. The settlement system for debt securities (Ramses) and its collateral management services have been assessed based on the Eurosystem user standards; system fulfilled requirements in 2009. Comprehensive assessment based on ESCB-CESR recommendations jointly with FIN-FSA is due to begin.
Euroclear SA systems	Program of the Euroclear Group for harmonisation of the services of the group's central securities depositories.	An oversight group coordinated by the Belgian authorities.	This is a highly challenging project. Oversight of the Group's central securities depositories will remain in the hands of national authorities. The Bank of Finland participates in the group of national oversight and supervisory authorities responsible for monitoring and assessing the Euroclear Group and its projects. Consolidation of the systems of the Finnish and Swedish central securities depositories have been examined.
<i>Information networks</i>			
SWIFT	Most significant provider of messaging services to the financial markets; an entity managed by its members	Oversight group headed by the central bank of Belgium (see NBB Financial Stability Review, 2010, p. 99)	SWIFT is a critical provider of services for financial market infrastructure. Its operations have been mainly reliable. In its self-assessment of 2008, SWIFT has stated that it meets the oversight requirements. SWIFT has strengthened operational reliability by establishing a new service centre in Europe.
Pankkiverkko 3	Domestic closed interbank network used by for example PMJ and POPS.	Bank of Finland oversight.	Subject to oversight monitoring. Operations have been reliable.
ATM networks	Networks significant for the supply of cash to individual members of the public.	Bank of Finland oversight.	Subject to oversight monitoring to ensure acquisition of data and secure preparedness for crisis management.

Organisation of the Bank of Finland

3 June 2011

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