



Financial Market Report

2 • 2013

- Exceptionally large amount of bond financing by Finnish companies
- Stock of housing corporation loans more than tripled in 10 years
- Strong growth in nonperforming loans at euro area banks
- Many euro area countries place restrictions on large cash payments



Bank of Finland

Financial Stability and Statistics

4.11.2013

Contents

1	Financial intermediation	4
1.1	Banks' role in financing Finnish companies has diminished	4
1.2	Housing corporation loans from MFIs increasing strongly	7
2	Banks and insurance companies	10
2.1	Banks' non-performing loans increase in the euro area, decrease in the United States	10
2.2	Bank's position relative to other banks explains contagion in the European money markets	12
3	Securities markets	13
3.1	SEU's CSD Regulation strengthens the single market and improves the rules for securities settlement	13
3.2	Stock of bonds issued by Finnish enterprises growing at a rapid pace	15
3.3	Bond and money market funds maintain their position in the investment fund markets	17
4	Infrastructure	19
4.1	Several euro area countries already limit large cash payments	19
4.2	Contactless payment is changing the way we make card payments	22
5	Key regulatory and supervisory initiatives	23
5.1	Single Resolution Mechanism will protect taxpayers from costs of banking crises	23
5.2	Many European countries impose restrictions on banks' housing lending	25
5.2.1	The legislative basis for the use of macroprudential tools	25
5.2.2	New tools for the regulation of capital adequacy	26
5.2.3	Use of instruments that influence housing lending	27
5.2.4	Liquidity requirements	28

List of charts

Chart 1.	Finnish corporate sector's self-financing ratio (gross savings/investment)	4
Chart 2.	Finnish non-financial corporations' interest-bearing debt	5
Chart 3.	Imputed interest margins on new corporate loans, by loan size	5
Chart 4.	Outcome of the application for bank loans by SMEs	6
Chart 5.	MFI lending to housing corporations in Finland	7
Chart 6.	Housing starts in Finland, by type of financing, and housing corporations' renovation costs	8

Project team

Nina Björklund
Jyrki Haajanen
Jenni Koskinen
Kimmo Koskinen
Hanna Putkuri
Pertti Pylkkönen
Eero Savolainen
Kari Takala
Mervi Toivanen
Jukka Vauhkonen

FIN-FSA

Anne Nisén

Coordination

Kimmo Virolainen
Päivi Heikkinen
Katja Taipalus
Jouni Timonen
Jukka Vauhkonen

ISSN

1796-931X

Chart 7. Imputed average margins on new drawdowns of MFI loans in Finland	8
Chart 8. Lending to housing corporations by general government and from abroad	9
Chart 9. Average return on equity (ROE) for large euro area banks and US banks	10
Chart 10. Developments in non-performing loans in the euro area and United States	11
Chart 11. Bonds issued by Finnish residents, outstanding amounts end-month	15
Chart 12. Bond issuance by Finnish non-financial corporations, gross (all currencies)	15
Chart 13. Fund capital by fund type and total net subscriptions	17
Chart 14. Finnish households' net investment in investment funds registered in Finland	18

List of tables

Table 1. Maximum sizes of cash payments in selected EU countries, EUR	21
---	----

1 Financial intermediation

1.1 Banks' role in financing Finnish companies has diminished

Eero Savolainen

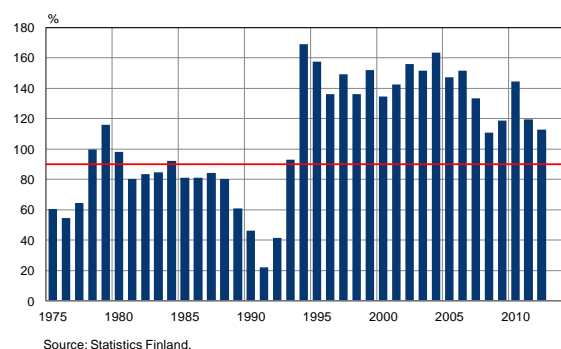
Corporate finance in Finland and elsewhere in the euro area is highly bank-centred. In Finland, particularly large non-financial corporations have recently acquired financing via bond issues, and growth in the stock of bank loans to non-financial corporations has come to a halt. Financing conditions of small and medium-sized enterprises have weakened to some extent, but are better than in the euro area on average.

Viewed at the level of the national economy as a whole, there is no major need for external finance in the Finnish corporate sector,¹ as non-financial corporations' internal financing has exceeded investment for nearly 20 years. In national accounts terms, there is no need for external finance from financial institutions and securities markets, as the corporate sector's gross savings exceed gross fixed capital formation. The corporate sector's self-financing ratio has long been over 100% (Chart 1). Admittedly, in recent years, the ratio has been lower than in the pre-crisis years. Although the situation of individual non-financial corporations may even differ widely from the average, the fairly high self-financing ratio of

¹ This article excludes housing corporations from the corporate sector.

the corporate sector reflects a relatively strong level of internal financing in the sector as a whole.

Chart 1. Finnish corporate sector's self-financing ratio (gross savings/investment)

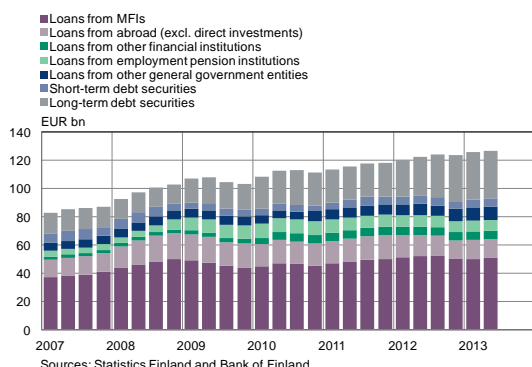


Corporate finance is bank-centred in Finland

The Finnish corporate sector's interest-bearing debt relative to the size of the economy has grown steadily. At the end of March 2013, the debt amounted to 66% of GDP and totalled EUR 127 billion (Chart 2).² The largest providers of finance to non-financial corporations include domestic monetary financial institutions (MFIs), in practice mainly deposit banks. Another important source of loan-based debt financing is the rest of the world, chiefly foreign banks and other financial institutions.

² Here direct investment loans in the balance of payments statistics and domestic inter-company loans are not counted among the corporate sector's interest-bearing debt.

Chart 2. Finnish non-financial corporations' interest-bearing debt



Lending by employment pension institutions to non-financial corporations began to grow rapidly in the latter half of 2008, in response to increased risks relating to the availability of corporate finance.

Employment pension institutions' loan stock peaked above EUR 10 billion, compared to a pre-crisis level of approximately EUR 4 billion. Although the loan stock of employment pension institutions has subsequently declined, it is still markedly larger than before the crisis. The total stock of lending to non-financial corporations by other general government entities (central and local governments) is somewhat larger than that by employment pension institutions.

The biggest recent change in the structure of corporate finance is the increasing importance of market-based funding. Large non-financial corporations, in particular, have issued more bonds than previously. By contrast, growth in bank loans has slowed: in August 2013, the three-month moving average of the annual growth rate of the corporate loan stock (excl. housing corporations) was only 0.3%.

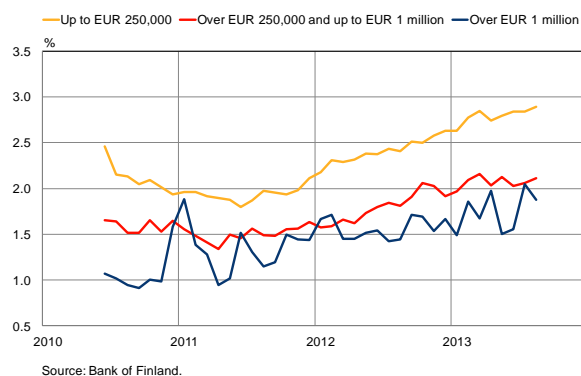
Interest margins on corporate loans have increased

MFIs have re-priced the risks inherent in corporate loans. Imputed interest margins on new loan agreements to non-financial corporations have

increased (Chart 3). In particular, the smallest corporate loans have been affected by widening margins. Nevertheless, loan rates for Finnish non-financial corporations are lower than in the euro area on average.

Loan margins for large non-financial corporations have also widened, but relatively less than for smaller enterprises. This is due, in part, to large companies' access to a wider spectrum of funding sources, such as bonds. Thus, larger companies have stronger negotiating power than smaller enterprises. Moreover, in making loan decisions, banks pay increasing attention to the imputed capital requirements of loans, which typically are lower in relative terms for large companies than for small and medium-sized enterprises (SMEs).

Chart 3. Imputed interest margins on new corporate loans, by loan size



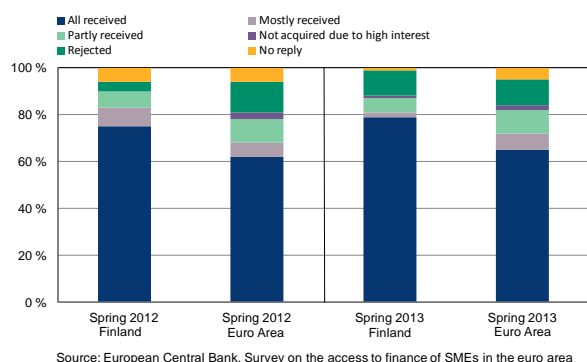
Financing situation of SMEs has deteriorated but is still better than in the euro area on average

The financing situation of Finnish SMEs has weakened to some extent. According to a survey conducted by the European Central Bank (ECB),³ the proportion of rejected loan applications has increased since autumn 2011 (Chart 4). In the period October 2012 to March 2013, 11% of SMEs' bank loan

³ Survey on the access to finance of SMEs in the euro area (SAFE).

applications were rejected. On the other hand, during the same period, 79% of SMEs' loan applications were approved in full. This was the euro area's second highest figure after Germany's and clearly higher than the euro area average.

Chart 4. Outcome of the application for bank loans by SMEs



MFI statistics do not separately indicate the amount of loans taken out by SMEs. However, based on the ECB's survey, it seems that developments in the SME loan stock have been subdued.

More than half of Finnish SMEs have enough own funds and internal sources of financing to render it unnecessary to seek external financing. In addition, SMEs' external financing needs have changed slightly. Demand for bank loans has already been on a downward path for several years, while demand for overdrafts and trade credits has increased.

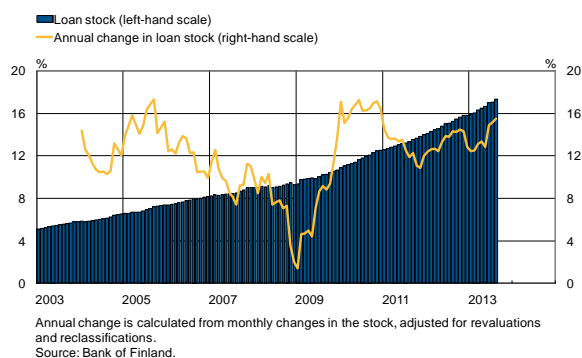
1.2 Housing corporation loans from MFIs increasing strongly

Hanna Putkuri ja Kimmo Koskinen

The stock of loans granted by Finnish MFIs to housing corporations has grown significantly in the past ten years. MFIs grant housing corporations both non-subsidised and state-guaranteed or subsidised loans. By contrast, the stock of loans granted by the general government directly to housing corporations is contracting gradually, as new state-subsidised housing loans (ARAVA loans) are no longer provided.

The stock of loans granted by Finnish MFIs to housing corporations has more than tripled in the past ten years. In August 2013, these loans amounted to approximately EUR 17.3 billion, and the year-on-year loan stock growth was well over 15% (Chart 5).

Chart 5. MFI lending to housing corporations in Finland



About two fifths of MFI lending to housing corporations is provided by Municipality Finance Plc⁴ and the remaining three fifths mainly by deposit banks. The share of deposit banks has declined markedly since 2008, even as the stock of these loans has grown.⁵

Municipality Finance grants loans to housing corporations controlled by local authorities and to housing corporations designated as non-profits by the Housing Finance and Development Centre of Finland (ARA), a government agency operating under the supervision of the Ministry of the Environment.⁶ Such loans may be interest-subsidy or privately financed loans, and may be used for construction, renovation or acquisition of housing property.

According to the State Treasury, the volume of state guarantees and the stock of loans with interest subsidy were both upwards of EUR 8 billion in June 2013.⁷ Municipality Finance is the most important intermediary for state-subsidised housing finance. The above-mentioned housing corporations designated as non-profits legally qualify for state subsidies and guarantees. However, in the current environment of low interest rates, interest subsidies are of no significance.

Municipality Finance also provides financing for debt restructuring. According to Municipality Finance, demand for its loans has recently been driven by

⁴ At the end of 2012, the stock of loans granted by Municipality Finance to housing corporations amounted to about EUR 6.4 billion (Municipality Finance's Annual Report 2012).

⁵ The data is based on the Statistics Finland outstanding credit statistics discontinued at the end of 2012.

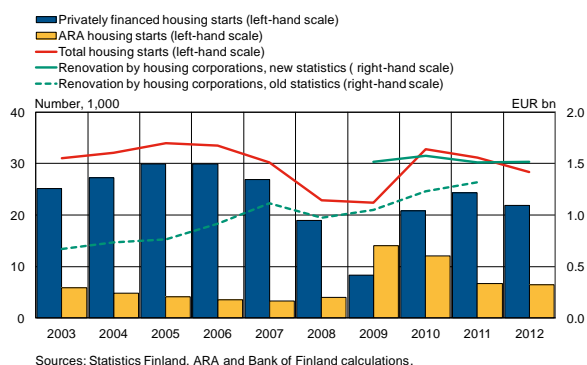
⁶ Significant housing corporations with non-profit status include eg certain limited liability companies belonging to Avara, Sato, TA and VVO Groups.

⁷ Includes subsidies and guarantees for rental and right-of-occupancy housing.

customers' willingness to replace old ARAVA loans by new market-based loans.

Housing production and housing corporations' renovation costs have evolved fairly steadily in Finland in recent years. Following the dip in 2008–2009, housing starts have regained their average level of the first post-millennium decade. The relative importance of state-subsidised ARA production increased strongly in 2009–2010, as privately financed housing construction collapsed. The trend has subsequently normalised (Chart 6).

Chart 6. Housing starts in Finland, by type of financing, and housing corporations' renovation costs

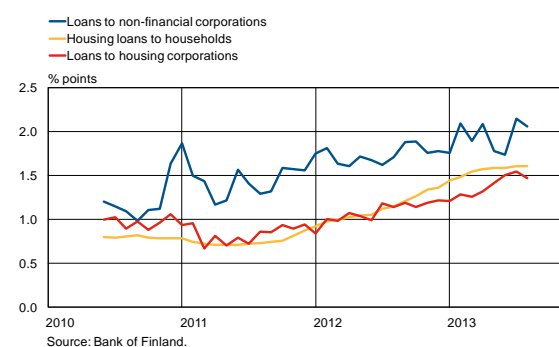


Margins on the increase, continued low level of interest rates

The average interest rate on the stock of loans granted by MFIs to housing corporations remained at a historically low level (1.65%) at the end of August 2013. The average interest rate on new drawdowns in August was 1.89%. The imputed interest margin⁸ on new loans averaged 1.47 percentage points in August, ie slightly less than for new housing loans to households and appreciably less than for new corporate loans (Chart 7). The average loan repayment period is more than 20 years.

⁸ Imputed loan margins are based on Bank of Finland calculations and data on interest rates and volumes of new loan drawdowns at different initial rate fixations.

Chart 7. Imputed average margins on new drawdowns of MFI loans in Finland



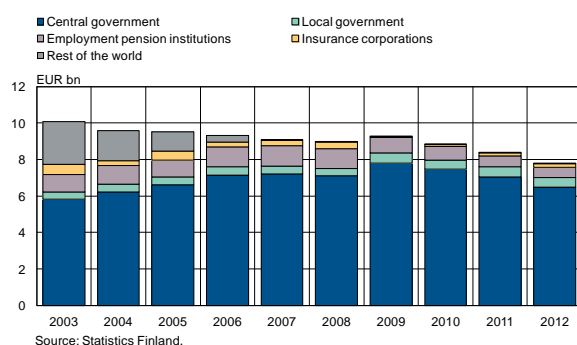
MFIs have increased their margins on new loans in order to improve profitability and to better take account of credit risks in pricing. In recent years, the long-sustained period of historically low Euribor rates and Euribor-tied lending rates has been the most important factor eroding profitability in basic banking. Banks have also cited more expensive funding and anticipated costs for regulatory tightening as justifications for the widening of loan margins.

Direct lending by the State contracts at an even pace

The stock of loans granted by the general government directly to housing corporations is mainly composed of ARAVA finance, ie loans granted for rental and right-of-occupancy housing. No new ARAVA loans have been provided since 2007; rather, state subsidies for housing purposes are entirely channelled via interest subsidies and guarantees on loans granted by MFIs.

The stock of loans granted by the general government directly to housing corporations peaked in 2009, and has since been declining at an even pace (Chart 8). The stock of ARAVA loans managed by the State Treasury amounted to about EUR 7.1 billion at the end of June 2013.

Chart 8. Lending to housing corporations by general government and from abroad



What are housing corporations?

In Statistics Finland's economic classification, housing corporations are housing companies, housing co-operatives, residential real estate companies, right-of-occupancy associations and other housing corporations. According to the Financial Supervisory Authority (FIN-FSA), corporations engaged in renting and management of own or leased real property account for most of the loans granted by deposit banks for real estate industry (a total of EUR 17.8 billion at the end of June 2013). Such corporations typically include housing companies and housing cooperatives as well as housing corporations designated as non-profits.

Most sectoral statistics on economic and financial transactions include all housing corporations in the corporate sector. For example, ECB statistics include MFI loans to housing corporations in loans to the corporate sector. In Finland, the relative impact of housing corporations on growth in this sector's aggregate loan stock has been of particular relevance during the past 12 months, as the stock of loans to non-financial corporations has barely grown.⁹ In other euro area countries, housing corporations generally play a minor role in this area.

⁹ The financing situation of non-financial corporations is discussed in more detail in section 1.1.

Part of housing corporation loans are in practice the responsibility of households. According to Statistics Finland's estimate, the loan stock of housing companies owned by households amounted to approximately EUR 9.2 billion at the end of June 2013. In financial accounts within the national accounts framework, these loans taken out for eg financing renovations and repaid in the form of maintenance charges are classified as household debt.¹⁰ This calculation method, inter alia, improves the international comparability of the household debt-to-income ratio.

¹⁰ Correspondingly, national accounts add imputed income from housing property to households' disposable income.

2 Banks and insurance companies

2.1 Banks' non-performing loans increase in the euro area, decrease in the United States

Kimmo Koskinen, Mervi Toivanen

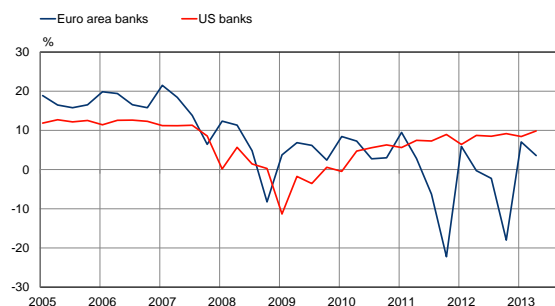
Banks' financial results have recently been pronouncedly better in the United States than in the euro area. The difference is largely explained by weaker economic activity and strong increases in impairment losses in the euro area. Losses of banks in Southern European countries, in particular, have expanded significantly.

US banks reported improved earnings for the second quarter of 2013. According to data from the Federal Deposit Insurance Corporation (FDIC), a supervisor of US banks, the aggregate earnings of US banks grew by about 23% on the second quarter of 2012, to USD 42.2 billion.¹¹ This was the fourth consecutive year in which earnings have improved. In June 2013, nearly 54% of the banks reported an improvement in year-on-year earnings, while only 8.2% cited a weakening. The banks' average return on equity (ROE) was 9.9%, compared to 8.7% a year earlier (Chart 9) Measured by return on assets¹², however, the banks' average earnings (1.17%) remained below the average for 2000–2006 (1.27%).

¹¹ FDIC data cover 6,940 commercial and savings banks.

¹² ROA.

Chart 9. Average return on equity (ROE) for large euro area banks and US banks



The sample of banks includes all FDIC-supervised institutions in the United States and about 60 large listed banks in the euro area.
Sources: FDIC and Reuters Datastream.

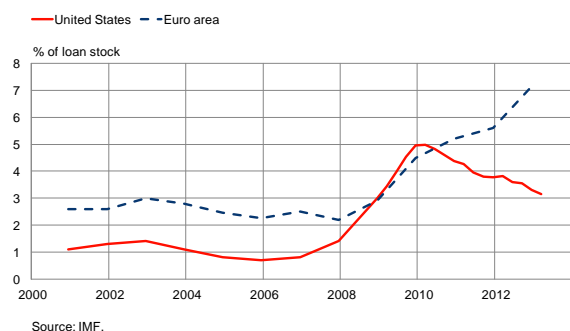
US banks' earnings were mainly driven by lower impairment losses and higher non-interest income. The growth in non-interest income was due, in particular, to increased profits from securities trading. By contrast, net interest income contracted, as the low level of interest rates reduced banks' interest income. Banks' loan losses and impairments on loans have declined amid the recovering US economy. Banks recognised about USD 9 billion in impairment losses for the second quarter of 2013, compared to a maximum of about USD 63 billion for a single quarter, reached in the last quarter of 2009. However, even though non-performing loans relative to the loan stock have simultaneously been on a clear downward trajectory, the volumes have remained higher than prior to the financial crisis that came to a head in 2008 (Chart 10).

Some banks have already reported their earnings for the third quarter of 2013. Wells Fargo's earnings grew on the previous quarter (April–June 2013), whereas J.P. Morgan posted a loss owing to a substantial legal charge relating to sub-prime mortgages. Loan losses and impairments on loans reported by large banks continued to decline quarter on quarter, and cost

cutting helped to reduce expenses. The low level of interest rates and weak mortgage credit performance still kept banks' interest income at low levels and eroded securities trading income.

The Tier 1 capital adequacy ratio of banks supervised by the FDIC, which was 13.0% in the second quarter of 2013, has remained broadly unchanged since 2011. In 2009 and 2010, however, banks' capital levels were bolstered significantly; at the end of 2008 the Tier 1 capital ratio was 9.9%. The Tier 1 capital ratio of US commercial banks, staying at 12.6% in the second quarter of 2013, is slightly lower than that of the banking sector as a whole.

Chart 10. Developments in non-performing loans in the euro area and United States



The profitability of large **euro area** banks¹³ remained weak in the second quarter of 2013, although many banks managed to move into profit territory after the end of 2012. The weakness of the economy, increasing impairment losses and the low level of interest rates continue to weigh on bank results. The weighted average of euro area banks' return on equity (ROE) was 3.3% at the end of June 2013, after 4.5% a year earlier.

Banks' net interest income is burdened, in particular, by low interest rates and subdued credit demand.

Although euro area banks have widened margins on new loans, margins on the aggregate loan stock expand

¹³ Euro area banks include about 60 large listed banking groups operating in euro area countries.

slowly. At the same time, banks' own market funding, notably in Southern European countries, has remained discernibly more expensive than in the period preceding the financial crisis, causing banks' interest expenses to rise and contributing to declines in net interest income.

Developments in non-interest income continue to diverge. On the one hand, subdued economic activity reduces banks' fee income. On the other hand, narrower interest rate differentials and favourable price movements in the stock market have boosted bank profits from securities trading.

Impairments recognised on loans and securities constitute the most important cause of euro area banks' poor profit performance. For example, at the end of 2012, banks in Spain recognised impairments of almost EUR 50 billion on e.g. real estate sector loans. Despite banks' increased impairment recognition, growth in non-performing loans has not come to a halt, but has instead clearly outpaced impairment recognition. The growth in non-performing loans has increased doubts about the banks' ability to cope with future loan losses and about the adequacy of capital levels. To restore confidence, assessments of euro area banks will be undertaken, in an effort to ensure the consistency of valuation practices for bank balance sheet components and to review the capital adequacy. The most important of these initiatives is the Balance Sheet Assessment to be conducted under the guidance of the ECB within the framework of the Single Supervisory Mechanism.

Tightening capital requirements, market pressures and growing loan losses have forced banks to bolster their capital positions. The average Tier 1 capital adequacy ratio of large euro area banks was 12.1% in the second quarter of 2013, compared to 9.8% as late as at the end of 2011.

2.2 Bank's position relative to other banks explains contagion in the European money markets

Mervi Toivanen

A research paper on contagion in the interbank money market shows that in 2010 contagion negatively affected 40% of European banks on average. A bank's central position in the interbank network is particularly important in explaining the level of contagion, while a bank's size is a considerably less significant explanatory factor.

Banks manage and level out their daily liquidity needs in the interbank money market. Interbank exposures nevertheless create contagion channels through which the problems of one bank may spill over to other banks. Insolvency of an individual bank causes losses to the creditor bank, which, in turn, may lead to the creditor bank's inability to meet its own obligations. Such spreading of problems is known as contagion. The most recent example of the spreading of uncertainty and counterparty risk aversion in the financial markets is the financial crisis that started in the United States in 2008 and spread like a disease through the interbank network.

A very recent research paper¹⁴ assesses the spreading of contagion and its possible negative effects in the European banking sector. The research proposes a novel approach for modelling contagion in the interbank network by implementing the SIR

model¹⁵ used in epidemiology. In the model, banks are broken down in three categories: susceptible, infected or recovered. Contagion spreads across the network of banks' financial linkages. If the capital buffers of a susceptible bank are too small relative to its receivables from the infected counterparty, negative domino effects spill over from the infected bank to the susceptible bank. Contagion probability depends on interbank exposures between the two banks, mistrust towards the infected bank and the size of the overall interbank market. The model is simulated with actual data on European banks.

The results show that contagion affected on average 40% and 70% of European banks in 2010 and 2007, respectively. Country-level results in turn suggest that banks from France, the United Kingdom, Germany and Spain are the most contagious ones, whereas Irish, Greek and Portuguese banks induce only limited negative effects.

Given the results, it is of interest to disentangle the leading indicators determining the level of contagion. This is analysed by cross-sectional panel estimations where the level of contagion is explained by bank-specific characteristics such as size, capital buffers and indicators that depict the bank's position in the banking network. The results show that a bank's position in the network is more important in explaining contagion than its size or leverage. Bank clustering, large interbank loans and a bank's prominence in the interbank loan network are the key explanatory factors. The results support the view that, besides bank size, bank regulation should address banks' position and significance in the money markets.

¹⁴ Mervi Toivanen (2013) Contagion in the interbank network: an epidemiological approach. Bank of Finland's Discussion Paper series (19/2013). See the Bank of Finland's website (www.suomenpankki.fi/en).

¹⁵ The name of the model comes from the words susceptible - infected - resistant (SIR).

3 Securities markets

3.1 SEU's CSD Regulation strengthens the single market and improves the rules for securities settlement

Jenni Koskinen

The EU's future CSD Regulation allows authorised CSDs to provide services throughout the EU. A new settlement period (T+2) will soon be introduced on the equities market. Those settling later will be subject to an effective sanctioning system.

The purpose of the EU regulation on central securities depositories (CSD Regulation) currently being prepared is to harmonise EU-level requirements for CSDs and for settlement of securities transactions and thus enhance the safety of the completion of securities transactions. The Regulation reduces the complexity of post-trading caused by differences in national rules and regulations. The aim is also to open CSD functions to competition and to lower the costs of cross-border securities transactions. The proposed Regulation therefore also supports the introduction and efficient use of the ECB's T2S platform¹⁶.

The proposal for a Regulation focuses essentially on CSD functions relating to the settlement of

securities transactions. In Finland, such services are provided by the Finnish central securities depository, Euroclear Finland.

The proposed Regulation includes many important reforms. The Regulation, which will be directly binding on member states, will eg require market participants to commit to settling securities transactions two days after the trading day (T+2). At the same time, the text emphasises the need to improve settlement discipline in Europe and therefore direct measures to address settlement fails will be put in place.

On the markets where the Euroclear group is involved in CSD activities, the aim is to introduce T+2 settlement already earlier than required by the Regulation. A shorter settlement cycle increases operational efficiency and reduces counterparty risk. Nearly all the European equities markets have thus far applied the T+3 model. T+2 settlement is however already common practice in foreign exchange transactions.

One of the main objectives of the regulatory reform is to give authorised CSDs the freedom to provide services throughout the EU. Share issuers would also be able to choose the place of issuance. As the borders are opened, it is however necessary to carefully define the powers, responsibilities and cooperation of the various authorities. The principle is that the competent authority of the CSD's home country will grant authorisation to the CSD and will be responsible for its ongoing supervision and regular reviews, in accordance with Level 2 regulations, which will supplement the Regulation. The competent authorities are required to cooperate with the relevant authorities,

¹⁶ TARGET2-Securities (T2S) is a securities settlement platform provided by euro area central banks, see <http://www.ecb.europa.eu/paym/t2s/html/index.en.html>

eg central banks. Harmonised reporting is also currently being developed in cooperation with the European Securities and Markets Authority (ESMA) and national securities markets supervisors and central banks.

Finnish investors are currently required to keep their holdings in book-entry registers maintained by Euroclear Finland. Securities are recorded in a book-entry register on behalf of the shareholders, by an account operator approved by the CSD. This clear and secure model of direct ownership is exceptional in Europe. In most EU countries the keeping of ownership records is the responsibility of a bank acting as counterparty to the CSD and as nominee register to individual investors. The proposal for a

Regulation however recognises the model of direct ownership and the special role of the account operators. The proposal has sparked debate also in Finland, particularly on the publicity of securities ownership (see eg Kauppalehti, 2 Oct 2013, in Finnish only).

The details of the Regulation, which has undergone extensive preparations, are expected to be further honed in the EU's legislative process. The aim is to have the Regulation adopted during the current term of the European Parliament, ie in early 2014 at the latest.

3.2 Stock of bonds issued by Finnish enterprises growing at a rapid pace

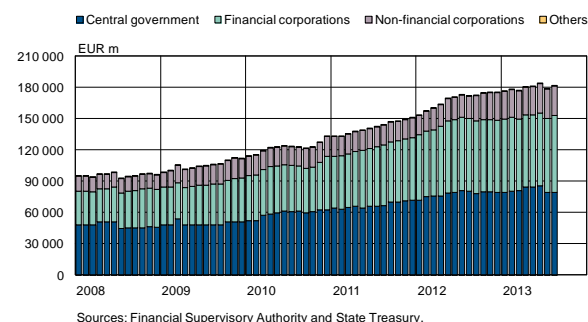
Pertti Pykkönen

The stock of bonds issued by Finnish enterprises is growing at a rate of 30%, and the group of issuers has become more diversified. After Spain, the growth rate for Finland is the second highest in Europe.

The total stock of bonds issued by Finnish residents is currently growing at a faster rate than that for the aggregate of euro area residents. In August 2013, the annual growth rate of the stock of bonds issued by Finnish financial corporations, enterprises and the central government in the Finnish and international markets was about 6%, while the corresponding growth rate for the euro area was just over 1%.

The stock of bonds issued by Finnish residents totalled EUR 183 bn in August. The general government and financial corporations each accounted for over 40% of the stock, while the share of non-financial corporations has already grown to 15% (Chart 12).

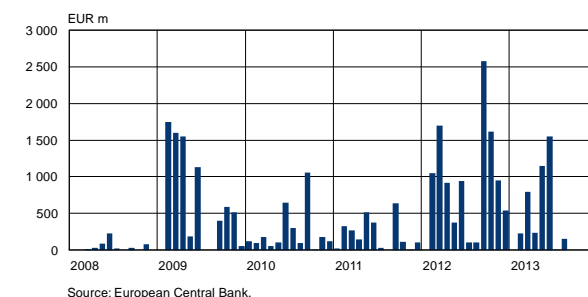
Chart 11. Bonds issued by Finnish residents, outstanding amounts end-month



The stock of loans granted by banks to non-financial corporations has grown very slowly, and the share of bank loans in the corporate sector's debt financing is decreasing. Larger companies have diversified the acquisition of debt funding by increasing bond issuance. As a result of rapid growth of issuance, bonds already account for almost one fourth of non-financial corporations' interest-bearing debt¹⁷.

In August 2013, the volume of bonds issued by Finnish enterprises in the Finnish and international markets was 30% higher than in the previous year (Chart 13).

Chart 12. Bond issuance by Finnish non-financial corporations, gross (all currencies)



The range of issuers has become more diversified, but only a few issuers have credit ratings. This has been reflected eg in issued bonds' coupon interest rates. The lowest coupon rates (investment grade corporate

¹⁷ See section 1.1. Banks' role in corporate finance has diminished.

bonds) have stood at 2.75% and the highest (non-investment grade corporate bonds) at over 12%.

The stock of bonds issued by non-financial corporations is also growing faster than the total bond stock in other European countries. In August, the euro area corporate bond market grew at an annual rate of 10%. The stock of corporate bonds has grown considerably faster in Finland than in the euro area on average. At the end of August, Finnish corporate bonds already accounted for almost 3% of total corporate bond issuance in the euro area, which is notably higher than eg Finland's share in the euro area economy.

The annual growth rate of the stock of bonds issued by Finnish financial corporations¹⁸ was 6% in August. A considerable portion of bond funding is acquired in the wholesale market. Instruments sold to private customers consist mainly of various structured bonds. Smaller local banks have recently started to strengthen their capital positions by issuing debentures. However, the individual issue volumes are fairly modest; only a few million euros. Bonds directed at larger banks' wholesale markets have mostly been covered (mortgage-backed bonds). At the end of August, the stock of bonds issued by Finnish financial corporations totalled EUR 75 bn, of which covered bonds accounted for EUR 28 bn.

In the euro area as a whole, the stock of bonds issued by financial corporations contracted in August 2013 by about 8% from the year-earlier period. Contraction of bank balance sheets and problems in real-estate markets in several countries are reflected in reduced funding from the markets.

Finland's central government (budgetary) debt amounted to EUR 86.2 bn at end-September 2013. The net borrowing requirement for 2013 is EUR 9.3 bn, of

¹⁸ Deposit banks, mortgage banks and Municipality Finance.

which approximately 85% was covered by the end of September. The debt has been almost fully covered by long-term bonds, and at end-September short-term treasury bills accounted for less than 4% of the debt. The central government has sought to diversify its borrowing in the course of the year and has also issued bonds denominated in non-euro currencies under the Euro Medium Term Note (EMTN) programme.

According to the budget proposal, the central government will acquire new debt financing of some EUR 7 bn in 2014. By the end of 2014, central government debt will rise to almost EUR 100 bn¹⁹.

Finnish bonds mostly sold to international investors

Finnish bond issuance has primarily been directed at either domestic or foreign institutional investors; sales to private investors have been fairly modest. Bonds held by Finnish households only account for a few percent of the total bond stock. However, the share is slightly larger in practice since households invest in bonds mainly via investment funds and voluntary unit-linked insurance products.

The key domestic investors are insurance corporations and employee pension institutions, which hold almost a tenth of bonds issued by Finnish residents. The insurance sector's domestic bond investment has recently been heavily concentrated on the corporate bond market.

Foreign investors currently hold over 80% of the stock of bonds issued by Finnish residents and about 90% of the stock of bonds issued by the Finnish central and local governments.

¹⁹ See www.statetresury.fi

3.3 Bond and money market funds maintain their position in the investment fund markets

Pertti Pylkkönen

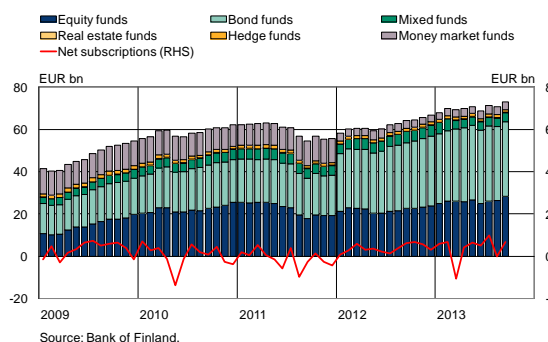
The level of capital in investment funds registered in Finland has continued to grow. Plans call for European regulation of money market funds to be tightened in order to mitigate the threat of systemic risk to the markets associated with money market funds.

Fund capital has continued to grow in Finland

At the end of August 2013, capital in investment funds registered in Finland totalled EUR 70.7 bn, up EUR 4 bn on the start of the year. A substantial portion of the increase – about two thirds – is from new investment inflows. Despite the low level of interest rates, bond and money market funds have maintained their key position in the investment fund markets; at the end of August, half of total capital in Finnish investment funds was in bond funds. Money market funds, which invest in short-term interest instruments, accounted for 5% of total fund capital and equity funds for 37%. Mixed funds' investor-attractiveness has gradually diminished, and their share of total fund capital is just over 5% (Chart 13).

Mixed funds have this year been the only funds in the largest-size category that have recorded negative net subscriptions, in the amount of EUR 1.4 bn. New inflows to bond and money market funds totalled EUR 2.8 bn in January-August, and equity funds attracted EUR 1.2 bn.

Chart 13. Fund capital by fund type and total net subscriptions

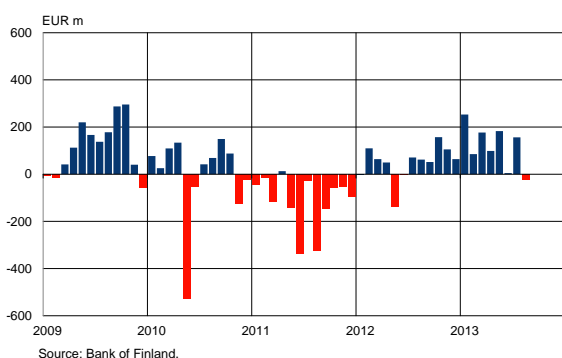


Households' direct investment in investment funds accounted for 20% of total fund capital in August. In addition to direct fund investments, households also indirectly place large sums in the investment fund markets, via individual life and pension insurance products. Households are the largest holder group of fund shares in the domestic investment fund markets: their total holdings comprise over a third of the total fund capital. There was a slight change in households' financial wealth in January-August 2013, as households' net investment in investment funds totalled almost EUR 1 bn in the first half of 2013, while their deposits contracted by EUR 1.3 bn (Chart 14).

Life and non-life insurers' holdings in investment funds have increased strongly, particularly as a result of robust growth in life insurers' premium income from individual unit-linked life and pension insurance products. A substantial part of funds invested in unit-linked insurance products are redirected to investment fund markets; at the end of August, life and non-life insurers' total holdings in investment funds accounted for 23%.

The general government's (incl. employee pension institutions) share in total investment fund capital has stabilised at 10%.

Chart 14. Finnish households' net investment in investment funds registered in Finland



The share of foreign investment in Finnish investment funds has edged down this year, but foreign investment still accounts for over a fifth of the total fund capital. A significant portion of foreign investment came from Sweden.

Finland's investment fund markets are highly concentrated. The market share of the two biggest management companies is about 50% and that of the five biggest management companies is 75%. At the end of August, there were 32 management companies operating in Finland, which managed 514 UCITS funds and special funds.

Upcoming changes to regulation on investment funds

The Directive on alternative investment fund managers (AIFMD Directive, 2011/61/EC) was adopted in June 2011. The deadline for the implementation of the Directive was July 2013. In Finland, a Government bill concerning the legislative changes required by the Directive has been submitted to Parliament, and the new provisions are scheduled to enter into force at the turn of the year. The scope of the new legislation will be extended eg to equity, real-estate, hedge and commodity funds not covered by the UCITS Directive. The AIFM Directive aims to provide for an internal

market for AIFMs and a harmonised framework for their activities and supervision.

The AIFM Directive regulates marketing of AIFs to professional investors. The Government bill proposes the marketing of AIFs in Finland also to non-professional customers.

Legislation on money market funds (MMFs) is also to be revised. In September 2013 the European Parliament and the Council issued a proposal for a regulation on MMFs with the aim to harmonise EU-wide regulation in this field. The new regulation seeks to mitigate systemic risk and the related threats arising from MMFs in the financial markets. One such potential and systemically relevant risk is for a massive exit from MMFs. The new regulation also aims to reduce interlinkages between MMFs and banks.

The proposal will introduce strict restrictions on MMFs' investment activities, eg restrictions on assets in which the funds can invest. MMFs will also be prohibited from engaging in short selling of money market instruments.

One of the focal points of the proposed regulation is more stringent rules on constant net asset value (CNAV) MMFs. The most important change is that, in order to prevent such exits, a CNAV MMF will be required to hold a liquidity buffer amounting to at least 3% of its total assets.

At the end of August 2013, there were 13 MMFs registered in Finland, and capital invested in them totalled EUR 3.7 bn. There are no CNAV MMFs operating in Finland.

4 Infrastructure

4.1 Several euro area countries already limit large cash payments

Kari Takala

In the aftermath of the financial crisis, several EU countries have limited the use of cash for large payments, in order to curb the grey economy. Many countries popular with tourists have more relaxed legislation on the use of cash by foreigners.

Many euro area countries have in recent years started to limit large cash payments or have tightened the restrictions on cash payments. The aim, inter alia, is to prevent and curb the black and grey economy, money laundering and terrorism financing.

Another aim of the restrictions is to boost tax revenues, which have shrunk as a result of the financial crisis, by making cash payments electronic and thus decreasing the cash payment-related opportunities for unreported sales. The use of cash may enable unreported sales, because the payment transaction does not necessarily create a digital trace. This usually applies to private entrepreneurs who are not part of a retail chain and industries where cash payment is frequent. In some sectors, the use of cash also enables the payment of salaries and wages under the table, ie without paying income tax.²⁰

²⁰ Payment of salaries and wages under the table usually requires that the company also has a cash flow. Studies show that in the Finnish construction sector, wages have been paid under the table. But since July 2013, it has been compulsory to pay wages on a bank

Popularity of cash

In Central and particularly in Southern Europe, cash is still the dominate retail payment instrument. In Greece, ca 90% of the retail payments are cash payments, the figure for Austria is ca 80%. Even in Germany as much as two-thirds of retail payments are cash payments. The share of card payments is however growing slowly but steadily in the euro area. In the Nordic countries, the Netherlands and the United Kingdom, card payments already clearly dominate the retail payment market.

The large amounts of cash are not necessarily used for payment but they may be kept as liquid cash assets or used for storing wealth even for extended periods of time. This is reflected in the fact that, of the banknotes issued in the euro area, 36% are of the two highest denominations.

The popularity of cash payments in Finland has been maintained by the easiness of cash ATM withdrawals and the fact that consumers are not usually charged directly for the cash withdrawals. At the checkout counter, cash has until recently been clearly the fastest payment method, and it still is, at least for small payments involving coins.

Temporary cash withdrawal limits have been in place recently at least at bank branches in Spain and Cyprus, to prevent deposit flight. In other countries, consumers and companies can withdraw cash from their current accounts and hold cash without restrictions.

account. Information on the impact of the new regulation is not yet available.

In the euro area, cash can be moved across borders freely, without cash declaration obligations. A person arriving from or leaving the EU's free trade area must however declare cash in amounts of EUR 10,000 or more. The anti-money laundering directive applies to cash payments of over EUR 15,000.²¹ In its proposal for a new anti-money laundering directive, the European Commission proposes that the directive be applied to cash payments of EUR 7,500 or more.

Cash is legal tender in the euro area, and therefore, as a rule, it should be impossible to refuse to accept cash. Finland, like some other euro area countries, emphasise the freedom of contract in legal praxis concerning payments. In Finland, customers should be informed clearly about limits on the acceptance of cash payments, already before entering the store or by the checkout counter.

The current maximum for cash payments in the euro area varies between EUR 1,000 and 15,000 (Table 1). The limits usually apply only to business activities, as cash payments between private individuals cannot be controlled. Some countries also have limits on cash payments between companies. In Finland, companies do not normally pay each other in cash.

The forerunner in limiting cash payments is France, where the maximum cash payment is EUR 3,000. Foreigners are however allowed to pay in cash for purchases amounting to as much as EUR 15,000. A similar practice facilitating purchases by tourists is applied in Spain. Countries with significant tourism revenue thus already have eased the limits on maximum size of cash payments (France and Spain) or do not have limits on the size of cash payments (Malta,

Cyprus and Estonia). Of the EU countries, Denmark, Sweden and the United Kingdom also do not have limits on cash payments. In these countries, accounting software makes tax evasion more difficult for larger companies, and cash payments are already declining. In addition, there seems to be no empirical evidence on the impact of limits on cash payments in these countries.

Some EU countries (Finland, Estonia, the Czech Republic and France) also have limits concerning the efficiency of cash payments. For example, a cash payment involving more than 50 coins need not be accepted. In addition, retailers must inform customers clearly at the checkout that they have limits on eg the acceptance of banknotes larger than 50 euro. The ECB has thus far not issued any general guidelines on cash payment limits, but it has considered them to be subject to national decision making.

²¹ Source:

http://www.finanssivalvonta.fi/en/Supervision/Money_laundering/Pages/Default.aspx

Table 1. Maximum sizes of cash payments in selected EU countries, EUR

Country	Maximum for citizens	Maximum for foreigners	NB
France	3,000	15,000	Cash payment can be refused, if the price is low relative to the offered banknote.
Germany	No limit	No limit	Obligation to declare sums of over EUR 15,000.
Italy	1,000	1,000	Foreigners have to show identification for purchases exceeding EUR 1,000.
Belgium	5,000	5,000	Will be lowered to EUR 3,000 as of start of 2014. House purchase in cash prohibited as of the start of 2014.
Spain	2,500	15,000	Limits do not apply to purchases between consumers.
Denmark	1,500	1,500	Limit applies only to consumer's responsibility for VAT if the trader does not pay his share of the tax. The sum in euro corresponds to ca DKK 10,000.
Greece	1,500	1,500	
Portugal	1,000	1,000	
Slovakia	5,000	5,000	Limit is EUR15,000 if the payment is not related to the payer's business.
Czech Republic	14,000	14,000	Limit is defined as the sum of purchases in one day, if it is equivalent to CZK 350,000.

The following countries do not have limits on cash payments: Iceland, Slovenia, Malta, United Kingdom, Austria, Cyprus, Finland and Sweden
Lithuania and Estonia.

Source: www.cec.consumo-inc.es/adjuntos/documentos/346.xls.

4.2 Contactless payment is changing the way we make card payments

Anne Nisén²²

Quick and easy payment methods are gaining popularity. Consumers are already accustomed to paying for purchases by card and invoices online. The latest payment trends seem to be to contactless and mobile payment.

Banks operating in Finland are planning, and some have already added, the Near Field Communication (NFC) feature to their payment cards. NFC enables the payment of small purchases without a PIN, by passing the card close to the retailer's payment terminal. The payment terminal must have an NFC function to enable payment without a PIN. Finnish banks have decided to set the maximum for a contactless payment at EUR 25.

Contactless payments based on NFC utilise radio frequency identification (RFID) technology. A very small transmitter placed in the card's chip enables the payment terminal to read the card data required for the payment. Mobile payment solutions are also changing and the NFC feature is expected to be added to mobile payment in the coming years. Contactless payment enables the payment of small purchases without a PIN. Larger purchases will still require keying in the PIN. The bank issuing the card can impose additional restrictions on card usage, eg by setting a limit on the number of contactless payments; when the limit is exceeded, the customer must key in the PIN once, after

which he can continue making payments without a PIN.

The new payment method has raised discussion also in the media. Its safety has been questioned. On the other hand, many would definitely like to start using contactless payment because of its convenience and speed. The card companies managing the card features seek to ensure safety of the cards by defining clearly what information can be read from the card with the NFC function. Payment without a PIN is a safer alternative, particularly if there is a high risk of the PIN and card getting into the wrong hands. The contactless payment feature does not change the card user's responsibilities for potential misuse of the card: the customer is not responsible for misuse if he or she uses the card carefully, in accordance with the card terms and conditions.

Banks are planning to automatically incorporate the contactless payment feature into cards upon renewal and into new cards in connection with card orders. In a supervisory letter sent to banks in June 2013, the Financial Supervisory Authority pointed out the safety aspects of the NFC feature. The Financial Supervisory Authority requires that private customers should be able to get, without extra charge, an alternative card without the NFC feature, if they so wish. The banks are also required to inform their customers clearly about the new ways of using payment cards, the terms and conditions, safety aspects, and what to do if they do not want to start using this new type of payment card.

²² The author is employed by the Financial Supervisory Authority.

5 Key regulatory and supervisory initiatives

5.1 Single Resolution Mechanism will protect taxpayers from costs of banking crises

Jyrki Haajanen

The European Commission proposal for the Single Resolution Mechanism is intended to come into effect at the beginning of 2015. The proposal does, however, contain a number of controversial issues that will need to be resolved before final decisions are taken. Prominent among these are the legal foundation of the Mechanism, decision-making procedures and funding.

In July 2013, the European Commission issued a proposal for the Regulation on the Single Resolution Mechanism. This is part of the broader project for European Banking Union, which also includes the Single Supervisory Mechanism for banks and an integrated deposit guarantee scheme. In its proposal, the Commission suggests the establishment of a Single Resolution Board for crisis resolution in respect of failing European banks and a single Bank Resolution Fund to cover some of the costs of resolution.

Together with the Commission and the national resolution authorities, the Single Resolution Board and Fund would constitute the EU's Single Resolution

Mechanism. The Mechanism would be based largely on the almost completed Recovery and Resolution Directive (RRD) for credit institutions and investment firms, but would also include certain key new elements. The most difficult issues that will still have to be resolved before introduction of the Mechanism relate to the legal foundation of the Mechanism, decision-making procedures and funding.

The Single Resolution Mechanism must have a solid legal foundation if significant powers (that normally belong to national authorities) are to be delegated to it. The Commission proposes as the legal foundation article 114 of the Treaty on the Functioning of the European Union, which deals with the harmonising of Member States' legislation. The suggestion is not entirely unproblematic, as in practice the proposal would mean powers (and responsibilities) under the RRD being transferred from national authorities to an EU authority. In reality, the work of the Single Resolution Mechanism would often not involve measures to harmonise legislation, but rather the application of already harmonised powers to individual cases. In evaluating the adequacy of the legal foundation, the final structure and decision-making procedures of the Single Resolution Mechanism will be important.

Under the proposal, the Commission would take the key decisions on resolution based on proposals from the Single Resolution Board (such as whether and when to place a bank into resolution and the scope of use of resolution tools and the Fund). In accordance with the Commission's decision, the Single Resolution

Board would draw up a resolution plan, in which the measures to be taken in resolving the crisis at the bank would be set out in detail. National resolution authorities would be in charge of executing the resolution plan, but the Board would oversee resolution and could, where necessary, directly address executive orders to troubled banks. The Single Resolution Board would contain representatives from the Commission, the ECB and Member States. As an alternative to the key role of the Commission, a formally and politically independent resolution authority with extensive, precisely defined powers has also been proposed.

As part of the Single Resolution Mechanism, it is also proposed to create a Single Bank Resolution Fund. Over the next ten years, funds would be gathered into the Fund equal to 1% of all bank deposits covered by deposit guarantee (based on the situation in 2011, the amount to be gathered in would be approximately EUR 55 billion). Essentially, the goal of the Fund would be to support the stability of the financial system, not the operations of unviable banks. The Single Bank Resolution Fund would replace the national resolution funds of countries participating in the Banking Union.

The Single Resolution Mechanism will be able to function effectively only when it has sufficient funds available to complete the resolution of troubled banks. Both the RRD and the Single Resolution Mechanism rest very strongly on the principle of creditor responsibility (bail-in). This is accomplished by covering a bank's losses initially with its own equity capital (plus subordinated liabilities) and thereafter converting a sufficient amount of creditors' receivables into (new) equity so as to enable the new bank formed out of the healthy components of the troubled bank to have an adequate capital base. In the

Commission's proposal, new legislation governing bail-in would not come fully into effect until the beginning of 2018, although the Single Resolution Mechanism would already begin operation at the beginning of 2015. Postponement of the introduction of bail-in would cause a 3-year transition period during which the funding of resolution would have to be resolved in some other credible manner.

The Commission and Member States, and at a later stage also the European Parliament, are negotiating over the Regulation on the Single Resolution Mechanism with the aim of securing its adoption before the spring 2014 European Parliament elections. The timetable is extremely tight and will require the speedy resolution of the many questions still unresolved.

5.2 Many European countries impose restrictions on banks' housing lending

Jukka Vauhkonen

EU countries have – contrary to the general view – a relatively large amount of experience in using potential macroprudential tools, even if the specific purpose for their use has not been to ward off systemic risks and strengthen the stability of the financial system. Half of the countries in the EU have imposed a loan-to-value cap on housing loans, if differently defined and used for different purposes. Some countries also have experience with the use of capital adequacy requirements for banks in excess of the EU's minimum requirements.

This article examines EU countries' experiences to date with the use, for either micro- or macroprudential purposes, of regulatory instruments that are suitable for use as macroprudential tools.²³ We also examine Member States' intentions in the immediate years ahead to adopt macroprudential tools within the scope of the EU's Capital Requirements Directive.

The macroprudential tools to be examined can be divided into three groups: (i) banks' capital adequacy requirements; (ii) banks' liquidity requirements; and

²³ By macroprudential tools we mean regulatory instruments for which the primary, publically expressed objective is to reduce risks to the stability of the financial system as a whole and strengthen the financial system's risk-bearing capacity relative to such collective risks.

(iii) macroprudential instruments potentially having an effect via the terms and conditions and the availability of housing loans and mortgage credit more broadly. Our examination does not consider those instruments that will be compulsorily included in Member States' macroprudential toolkit via the EU's regulation of capital adequacy, the requirement for counter-cyclical capital buffers and the capital buffer requirement for globally systemically important banks. We also leave out macroprudential instruments that could possibly be targeted at infrastructure actors and financial institutions other than banks.

5.2.1 The legislative basis for the use of macroprudential tools

The purpose of most potential macroprudential tools is to regulate banks' capital adequacy and liquidity, which for their part affect banks' ability to grant loans and enlarge their balance sheets, the terms of lending and banks' resilience to crises and losses. The requirements on banks in the EU in regard to capital adequacy and liquidity are set out in the Capital Requirements Directive and Regulation (CRD IV/CRR). The Capital Requirements Directive defines centrally the type of macroprudential tools national authorities have at their disposal and how their use can possibly be directed or coordinated at EU level. With CRD IV, all Member States will be required for the first time to introduce a standardised macroprudential tool, a counter-cyclical capital buffer. The imposition of a counter-cyclical capital buffer will gradually become possible in all euro area countries at the latest by 2016–2019, in accordance with the timetable for transition set out in CRD IV.²⁴ Earlier

²⁴ In 2016, Member States must be able, where necessary, to impose a counter-cyclical capital buffer

introduction is also permitted. Of countries outside the EU, Switzerland has already introduced a buffer requirement. Norway, too, may activate a buffer in the near future.

The Directive and Regulation also make provision for other macroprudential tools that will allow regulation of the size of capital buffer required of banks. Nationally systemically important credit institutions can have an O-SII buffer of a maximum 2% imposed on the basis of their systemic importance. In addition, or alternatively, a country can impose on all or some of its credit institutions a systemic risk buffer requirement of, as a rule, a maximum 5%. The requirement for a systemic risk buffer can be imposed for structural or macroprudential reasons, for example the banking sector's large size relative to the country's economy as a whole.

The Directive does not, however, oblige Member States to include a systemic risk buffer requirement in the tools available to their authority with responsibility for macroprudential supervision. It is not yet apparent if this requirement will be made available to Finland's macroprudential supervisory authority.

The new quantitative liquidity standards included in Basel III and EU rules – the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR) – are essentially microprudential provisions. It is still unclear to what extent they will in future be usable nationally as countercyclical or discretionary measures. Member States can, however, use other liquidity requirements for either micro- or macroprudential purposes.

of at most 0.625%. This level will be raised annually by 0.625 percentage points until 2019, when they must be able, where necessary, to impose a counter-cyclical capital buffer of 2.5%.

Many other potential macroprudential tools, too, are outwith the scope of the Directive. It does not cover regulatory instruments that affect the terms and conditions of lending, such as the imposition of a loan-to-value cap on housing loans or a maximum debt-to-income ratio for loan applicants. The use of such instruments will in future continue to be at the discretion of national authorities.

5.2.2 New tools for the regulation of capital adequacy

The EU's new Capital Requirements Directive and Regulation will change the range of instruments available to Member States to tighten the capital requirements on their countries' banks. The Capital Requirements Directive currently in force is based on the principle of minimum harmonisation: the Directive defines EU-level minimum common requirements, from which Member States are free to differ in a stricter direction. In contrast, the new CRD IV will be based on maximum harmonisation, from which Member states may differ only in ways defined in the text of the Directive.

Member States will in future have three ways in which they can impose on some or all of their credit institutions (structural) capital requirements beyond the mandatory EU minimum: 1) an O-SII buffer requirement 2) a systemic risk buffer requirement or 3) a capital buffer requirement imposed on a single credit institution by the banking supervisor on the basis of a Pillar 2 assessment. Of these, the first two are new instruments. Pillar 2 requirements have been in use since the implementation of the Basel II capital framework. As well as institution-specific risk factors, use of a Pillar 2 requirement could in future also be based on macroprudential reasons, such as the risks an

individual institution poses to the financial system as a whole.

Already prior to the financial crisis, some countries of Central and Eastern Europe (Croatia, Estonia) were already using capital requirements that were stricter than the EU's minimum requirements. For example, in Estonia the minimum capital requirement for banks was raised from 8% to 10% as early as 1997.

As a consequence of the financial crisis, the minimum capital requirements for banks were also tightened in Greece, which imposed a 9% core capital requirement (Core Tier 1) in March 2013. In Portugal, too, the core capital requirement for banks was increased. Slovakia has in place a non-binding core capital recommendation of 9%.

5.2.3 Use of instruments that influence housing lending

Authorities in European countries have made extensive use of regulatory instruments that restrict bank lending for the purchase of housing and other real estate. The use of these instruments has been motivated by both 'microprudential' and 'macroprudential' objectives. The former include strengthening consumer protection and the capital adequacy of banks, while the latter would be, for example, the objective of moderating the pace of growth in housing loans or rising house prices. To date, microprudential objectives would appear to have been the more important motivation.

Loan-to-value caps

A loan-to-value cap has been the most commonly used regulatory instrument targeting lending to house purchasers.²⁵ A loan-to-value cap can be used, and

²⁵ Countries that have applied a loan-to-value cap in its various forms include at least the Netherlands,

has been used, in a number of very different ways.

There are major differences between European countries in respect of how 'binding' the loan-to-value cap has been, and hence how much its use has restricted housing lending and affected its terms and conditions.

The effectiveness of a loan-to-value cap is influenced by, for example, its level, scope (applies to all mortgage-backed loans, or just to some), how legally binding it is (recommendation or mandatory), the sanctions for a breach of the rules, and whether unsecured top-up loans are allowed.

In Sweden, for example, the loan-to-value cap is binding and is applied comprehensively to all mortgage-backed loans. In some countries, however, rules like loan-to-value caps are applied more narrowly.

In some countries, such as Finland, the loan-to-value cap is a non-mandatory recommendation. In a few countries (Poland, Romania and Hungary) the loan-to-value cap applies only to housing loans denominated in foreign currency.

European countries have not used loan-to-value caps as a discretionary countercyclical tool; as a rule, it has been applied either as a fixed rule or at least as a rule with only rare exceptions. It is chiefly just certain Asian countries that have experience with using a

Belgium, the United Kingdom, Italy, Latvia, Lithuania, Portugal, Poland, France, Sweden, Romania, Slovakia, Finland and Hungary. Experiences with using a loan-to-value cap are examined in more detail in Vauhkonen and Putkuri (2013) 'Lamauttaako vai vakauttaako lainakatto Suomen asuntomarkkinat?' ['Would a loan-to-value cap stabilise or paralyse the Finnish housing market?'] *Kansantaloudellinen aikakauskirja* [Finnish Economic Journal], 109, 1/2013, p. 85.

loan-to-value cap as a tool of active (macroprudential) adjustment.

Other regulatory instruments applied to housing lending

Loan applicants' loan-to-income (LTI) ratio or debt-to-income (DTI) ratios have been used in many EU countries.²⁶ In Finland, the Financial Supervisory Authority (FIN-FSA) has not issued direct recommendations regarding the LTI/DTI or a maximum debt service burden. FIN-FSA has, however, urged banks operating in Finland to carry out a financial margin assessment for every new housing loan applicant. Stress test calculations of a loan applicant's debt-servicing capacity should be conducted at least for the highest level of interest rates seen in the euro era (12-month Euribor at 6%) and for a maximum repayment period of 25 years.

The housing loan risk weightings employed by banks in their capital adequacy calculations can also be raised for macroprudential reasons. Of the Nordic countries, Sweden and Norway have raised their housing loan risk weightings above the minimum levels defined in the Capital Requirements Regulation.

Individual EU countries also have in place and available for use other regulatory instruments to influence housing lending. Examples include sectoral capital requirements (United Kingdom), limits on housing loan interest rates and on the duration of loans (France) and dynamic loan loss reservations (Spain).

5.2.4 Liquidity requirements

EU countries have had no experience of the explicitly macroprudential use of regulatory instruments that influence banking liquidity; the use of such

²⁶ These include at least the Netherlands, Belgium, France, Lithuania, Portugal and Poland.

instruments has been primarily for microprudential purposes. Many countries have in use similar requirements for minimum levels of liquid assets to be held by banks to those envisaged for the forthcoming Liquidity Coverage Ratio.²⁷ In a few countries, banks are also required to have sufficient liquid assets denominated in foreign currency (Croatia, Sweden and Hungary). Meanwhile, foreign subsidiaries of Austrian banks are required to have a sufficient level of funding acquisition in their country of operation.

In some non-euro-area countries, the requirements for banks' cash reserves can potentially be used as macroprudential instruments (Croatia and Hungary). Foreign-sourced or foreign-currency-denominated funding has also had imposed upon it in individual countries various cash reserve requirements (Croatia) or else is subject to more intensive supervision (Romania).

²⁷ Such countries include at least Belgium, Croatia, Poland, Portugal, France, Romania, Slovakia, Sweden, Denmark and Hungary.