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## Bank of Finland Financial Stability Report

One of the Bank of Finland's core tasks is to contribute to the reliable, efficient and stable functioning of the financial markets. The Bank conducts regular analyses of the vulnerabilities and risks related to the financial system that could trigger or exacerbate economic disruptions. These are not forecasts, but analyses of potential financial market developments.

The financial stability analysis published on the Bank of Finland website is intended for financial market participants, other authorities and the general public to provide information and promote discussion on financial stability. The objective is to ensure that these parties take the current condition of and future outlook for the financial system into consideration in their operations. In addition to the stability analysis, the publication features articles of topical interest.

The contents of the Bulletin may be freely quoted, but due acknowledgement is requested.

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## EDITORIAL

# Shortcomings in the macroprudential toolkit and changes in the banking sector increase financial system risks

10 MAY 2017 11:00 AM • BANK OF FINLAND BULLETIN 2/2017 • EDITORIAL

There is no indication of growth in cyclical risks to the financial system in Finland. Finnish banks and insurance companies are financially sound. The financial system is, however, structurally vulnerable against the backdrop of households' high and unevenly distributed indebtedness. To ensure households' debt-servicing capacity, a more diverse macroprudential toolkit is needed than the one currently in place. Structural changes in the banking sector may have an impact on risk spillovers between the Nordic countries.



Finland appears to be gradually leaving behind the protracted period of weak economic growth. Accelerating growth may increase financial system vulnerabilities and risks in an environment of low interest rates, as monetary policy is guided by the euro area-wide inflation target. In Finland there is currently no indication of excessive cyclical increases in house prices or credit growth. The financial system is, however, structurally vulnerable against the backdrop of a high degree of household indebtedness. It is important that the authorities have adequate macroprudential tools at their disposal to prevent imbalances from growing too large in a period of low interest rates.

Reasonable loan maturities and the tradition of loan amortisation have moderated Finnish households' accumulation of debt. Low interest rates have facilitated loan-

servicing in recent years. During the last twenty years, mortgage maturities have become longer in Finland, although they are still shorter than in, for example, Sweden. Household indebtedness is at a high level in Finland, and the debt burden is unevenly distributed among households. The Bank of Finland takes a cautious attitude towards banks' offers for mortgages with increasingly long maturities. In future, the established practice of regular amortisation of mortgages should continue and maturities should not increase from their current level.

High household indebtedness poses a risk to economic growth and stability. This risk is managed by macroprudential instruments. The Bank of Finland has on several occasions drawn attention to the fact that there is a need to develop the current macroprudential toolkit. Authorities should continue their cooperation in developing these tools. In this preparatory work, different options for ensuring households' loan-servicing ability are being reviewed, with a broad-based assessment undertaken of the impact of the tools envisaged. The aim is to create a sufficiently comprehensive macroprudential toolkit to safeguard the stability of the Finnish financial markets, prevent over-indebtedness and ensure households' debt-servicing capacity. At the same time, it is important to secure the functioning of the housing market in Finland.

Financial market regulation has recently surfaced in discussions at international level, particularly in the United States. In this context, it has been suggested that financial sector regulation should be rolled back. Regulatory deficiencies and inadequate supervision were key contributors to the build-up of the financial crisis. Regulatory shortcomings have subsequently been remedied and supervision intensified. Adequate regulation helps ensure that financial crises like the one recently experienced and their negative macroeconomic implications could be avoided going forward. Against this background, large-scale financial sector deregulation would not be a step in the right direction, and postponement of the completion of international regulatory reforms is disquieting. Significant rollback of regulation, in combination with strengthening economic growth and low interest rates, would open the door for new imbalances to emerge on the financial markets. Even so, regulation needs to take account of the scope and riskiness of the activities involved. There is a case for considering, for example, the setting of more relaxed reporting requirements on smaller credit institutions with no systemic importance.

With the financial sector undergoing transformation, it is worth evaluating and identifying any development and improvement needs caused by such shifts. The financial sector is at present under strong pressure for renewal, as digital applications and new market players are gaining ground. The challenge is to cater for effective regulation, while ensuring a level playing field between new players and market incumbents. Scope for more nimble regulation and a higher degree of competition will be offered by e.g. the Commission's proposal for enabling recently entered market players to operate within less stringent regulatory constraints, provided their activity is conducted on a small scale. A diversified field of market participants will open up new financing channels for firms and support their access to finance, thereby promoting the objectives of the EU's Capital Markets Union. New market players and operating procedures will also bring risks. This highlights the importance of sufficient investor protection and consumers' financial literacy.

In Finland, as in the other Nordic countries, banking and insurance are concentrated on a few large companies. The structure of the Finnish banking sector is changing significantly, as some of the largest banks in terms of market share have begun to convert their group structures from subsidiaries into branch-based frameworks. Changes in the structures of banking groups operating in Finland may have an impact on the spillover of stability risks and the availability of finance in Finland. This scenario may materialise if, for example, a bank, upon encountering problems, were to restrict its lending in the host country of its branch in an effort to safeguard the continuity of operations in the home country.

Key to ensuring financial stability, continued confidence and a level playing field for market players is the application of consistent supervisory practices based on the single EU rulebook to all banks operating within the EU. In the longer term, financial stability and confidence could be strengthened by migration to common deposit protection. For the single deposit guarantee scheme to become a reality, it is, however, essential that participating banks' balance sheet items be of good quality and their capital positions at adequate levels.

Changes in the banking system highlight the importance of smooth cooperation between the authorities. To foster cooperation, the Nordic central banks, supervisory authorities and finance ministries have issued memoranda of understanding, including principles relating to exchange of information. Although the capital adequacy of Finnish banks and insurance companies and their Nordic equivalents operating in Finland is currently in order, the prospect of exceptional situations emerging in the future cannot be ruled out entirely. This is why we must ensure that cooperation between the authorities functions well in the event of potential emergency conditions.

Preparation for problem situations and disruptions, also in respect of the financial infrastructure, is warranted. Payment and settlement systems serving the Finnish financial markets are international, largely operating beyond Finland's borders. This needs to be taken into account when planning contingency measures. Finland's national preparedness for disruptions is currently not adequate. The situation must be improved significantly in cooperation between those operating in the financial sector and the relevant authorities. Financial stability is based on the presence of financially sound and profitable financial-sector players, while also requiring payment and settlement systems that function reliably.

Helsinki, 10 May 2017

Marja Nykänen  
*Member of the Board*

## Tags

- [financial stability](#)
- [indebtedness](#)
- [macroprudential instruments](#)

# Nordic interconnectedness and indebted households pose a risk to financial stability

29 MAY 2017 3:00 PM • BANK OF FINLAND BULLETIN 2/2017 • FINANCIAL STABILITY

The Finnish financial system has operated reliably. The probability of serious disruptions related to economic and credit cycles is small in the immediate future. The structural vulnerabilities of the Finnish financial system have, however, increased, against a backdrop of household debt accumulation and changes in the structure of the banking system.



The outlook for the Finnish economy has improved. Nascent economic growth, the strengthening of consumer expectations and the release of housing demand that had possibly accumulated during the period of slow economic growth may fuel the housing market and mortgage lending, particularly in growth centres. The authorities are prepared to use macroprudential tools to prevent cyclical risks to financial stability, if necessary.

The macroprudential toolkit available in Finland should be extended with instruments designed primarily to ensure the loan applicant's adequate, income-based debt-servicing capacity. These new tools would include an income-linked loan cap on mortgages, [maximum housing loan maturity](#) and an amortisation requirement for mortgages.

Macroprudential instruments targeted at credit standards would help maintain traditional and well-established lending practices. Preventing the worst excesses, such as



leveraged housing price bubbles and price collapses, would be in the interest of households that currently have a mortgage, future home buyers and the economy as a whole.

Shortcomings in regulation and supervision were one of the contributors to the financial crisis. It is therefore a matter of concern that attitudes towards regulation are increasingly critical, particularly in the United States, and that the completion of global regulatory reforms is being postponed. A rollback of regulatory reforms would in the short term generate small cost savings in the financial sector, but in the long term it would increase the probability of financial crises.

The conversion of Nordic banks' subsidiaries into branches is significantly reshaping the Finnish banking sector. The strengthening of Nordic interconnectedness facilitates the spread of financial crises and disruptions across countries.

The supervision and crisis management of credit institution branches is the responsibility of the authorities of the country in which their head office is located. Uniform regulation and supervision as well as close cooperation between authorities is increasingly important, as some of the large European financial institutions operate outside the EU's Banking Union.

Financial stability also requires reliable and secure payment and securities clearing and settlement systems. The systems have thus far operated reliably. Finland is, however, highly dependent on several international systems that largely operate beyond its borders. In Finland, the private sector and the authorities need to cooperate to improve preparedness for situations in which international data connection networks and systems are not available.

The digitalisation of the financial sector and entry into the market of new players has rapidly increased the variety of financial services. For example, payment is becoming increasingly real time and payment transactions less visible. Moreover, the consumer credit market has seen the arrival of new players that are marketing their services online, for example.

Due to the changing environment, consumers need a good level of financial literacy – the ability to understand and manage one's finances. Providers of financial services and authorities must participate in promoting consumers' financial literacy in an increasingly digital economy.

## The European banking system still subject to risks

The global economy is expected to grow at a stable rate, which will support the stability of the international financial system. The increase in investor optimism and risk appetite have contributed to a rise in the share prices of financial institutions (Chart 1) and lowered the risk premia on bonds issued by financial institutions.

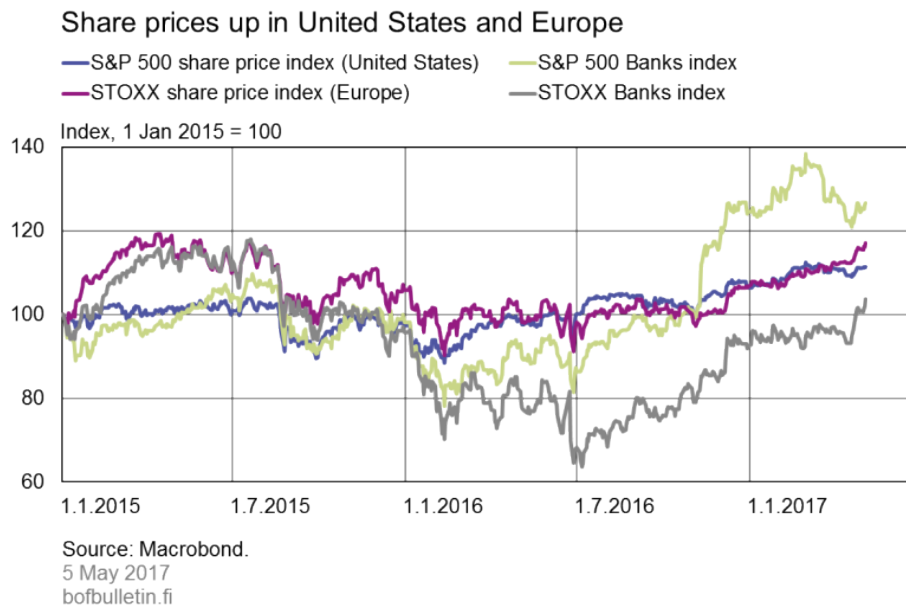
The forecast for the global economy is, however, subject to significant downside risks. These relate to increased restrictions on global trade, a sharper-than-forecast slowdown



in China's debt-led growth and, in certain countries in Europe, the weak condition of the banking sector and public finances.

There is also a risk that investor optimism will turn rapidly into risk aversion in the event of an increase in global economic or geopolitical uncertainty. This could trigger major price changes on the securities markets and push up the cost of market funding for banks, non-financial corporations and governments (see '[Most significant international threats to stability relate to securities markets](#)').

Chart 1.



The exceptionally accommodative monetary policy of the European Central Bank has fed through to euro area banks' lending rates in an even broader manner. The average lending rates on new corporate and household loans have decreased in the euro area, and the interest rate spread between the countries that suffered most from the debt crisis and countries with high credit ratings has narrowed. Credit standards have eased, which improves the conditions for euro area economic growth, even though the decline in lending rates has not yet been reflected much in corporate investment.

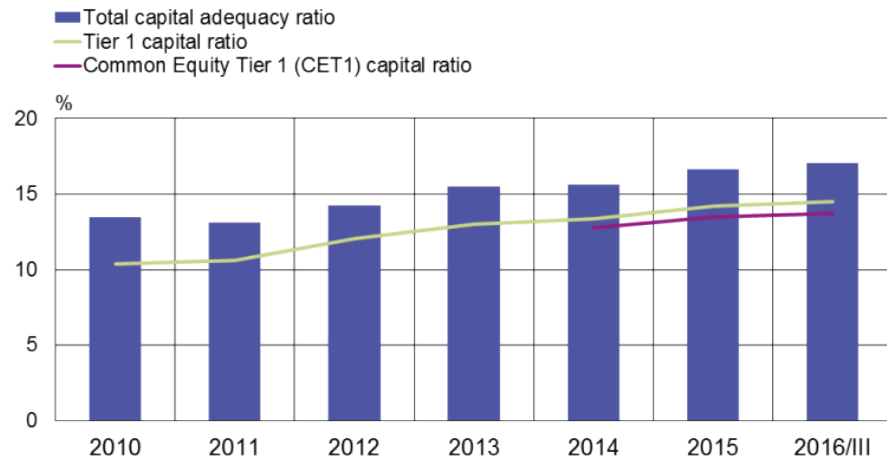
The pick-up in the global economy and European economies has, however, not eliminated the problems in the European banking system. Data compiled by the European Banking Authority (EBA) show that the average profitability of large European banks is fairly low and continued to weaken in 2016. Banks are burdened by the low level of net interest income, the decline in fee income and, in some countries, overcapacity in the banking sector and a large amount of non-performing loans.

Longer term risks may arise from the as yet unspecified plans put forward by particularly the US administration to roll back financial regulation. Easing back on bank regulation and a weakening of global regulatory cooperation could in the short term decrease the costs for financial institutions, but in the longer term would increase the threat of financial crises.

The resilience of the European and euro area banking system has been enhanced considerably in recent years. Banks' average capital ratios have increased further (Chart 2) and banks have built up their liquidity buffers as a protection against liquidity crises. Moreover, a growing share of bank funding is accounted for by deposits and long-term bonds, which do not dry up as easily as short-term market funding in a market disruption. The Banking Union, which was launched in 2014, has strengthened and harmonised banking supervision and crisis management in the euro area.

Chart 2.

### Capital adequacy of euro area banks has strengthened further



Source: European Central Bank.  
3 May 2017  
bofbulletin.fi

The integration of the Nordic banking system increases the risk of cross-border spillover of banking crises and other serious problems of financial institutions. Developments in the other Nordic economies and financial systems are therefore even more important for Finland than before.

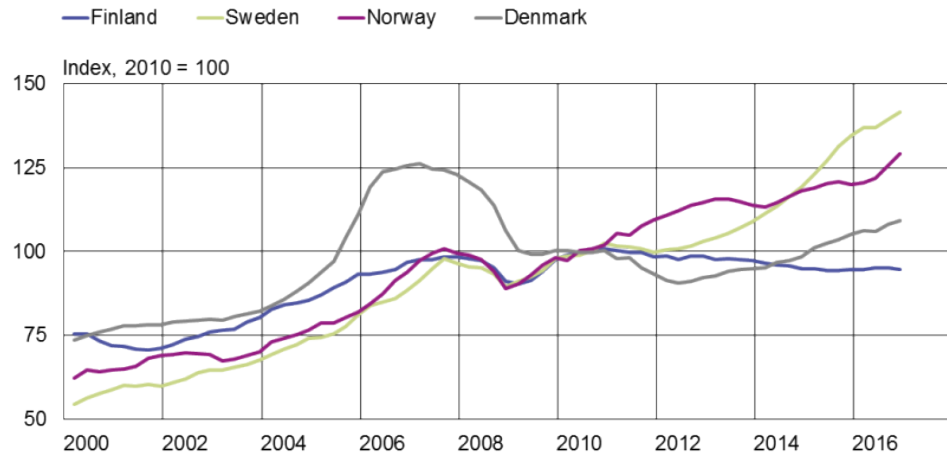
The Nordic banking and financial systems are currently in a good condition, but there are significant structural vulnerabilities. The vulnerabilities of the Nordic banking sector are its large size, degree of concentration, interconnectedness and the major role of home loans in the financial system, and also the banks' dependence on international market funding.

Nordic households have a considerable amount of debt relative to their income. There are, however, considerable differences between countries in terms of household debt, due, among other things, to differences in mortgage repayment practices.

Uneven economic growth is also reflected in a divergence in housing market cycles. There have been signs of overheating on the housing market in Sweden and Norway, for example, where house prices have in recent years risen strongly in real terms (Chart 3).

Chart 3.

### Developments in real house prices differ from country to country



Source: Macrobond.  
3 May 2017  
bofbulletin.fi

## Cyclical risks to financial stability in Finland are small

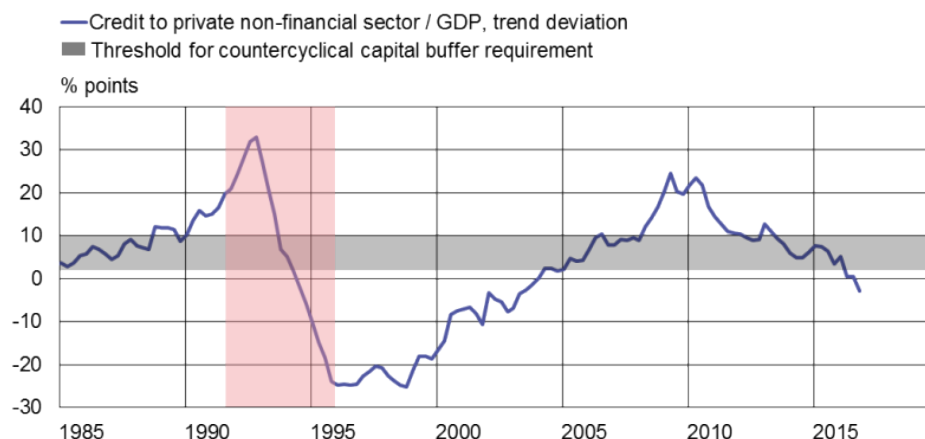
The Finnish economy has finally left behind the protracted downturn. The downside of a pick-up in economic growth has often been that stability risks associated with growth in lending have increased.

The near-term stability risks relating to Finnish economic and credit cycles are still assessed as small. In their macroprudential analyses, the Bank of Finland and the Financial Supervisory Authority (FIN-FSA) monitor developments in leading risk indicators. These indicators suggest that the probability of serious disruptions in the financial system is small in the near term.

The trend deviation of the ratio of private sector credit to GDP (credit-to-GDP gap) is internationally the most observed leading indicator of banking crises. The value of the credit-to-GDP gap is currently lower than normal in Finland (Chart 4).

Chart 4.

### The leading risk indicator of banking crises has lowered further



Sources: Bank for International Settlements (BIS), Statistics Finland and calculations by the Bank of Finland.  
 3 May 2017  
 bofbulletin.fi

House prices have continued to develop moderately in Finland, but price differences between the Helsinki metropolitan area and the rest of the country have increased. House prices relative to wage and salary earnings are close to the long-term average (Chart 5). The annual growth rate in lending for house purchase was at the beginning of 2017 around 2%.

Chart 5.

### Relative house prices close to their long-term average



Sources: Statistics Finland and calculations by the Bank of Finland.  
 3 May 2017  
 bofbulletin.fi

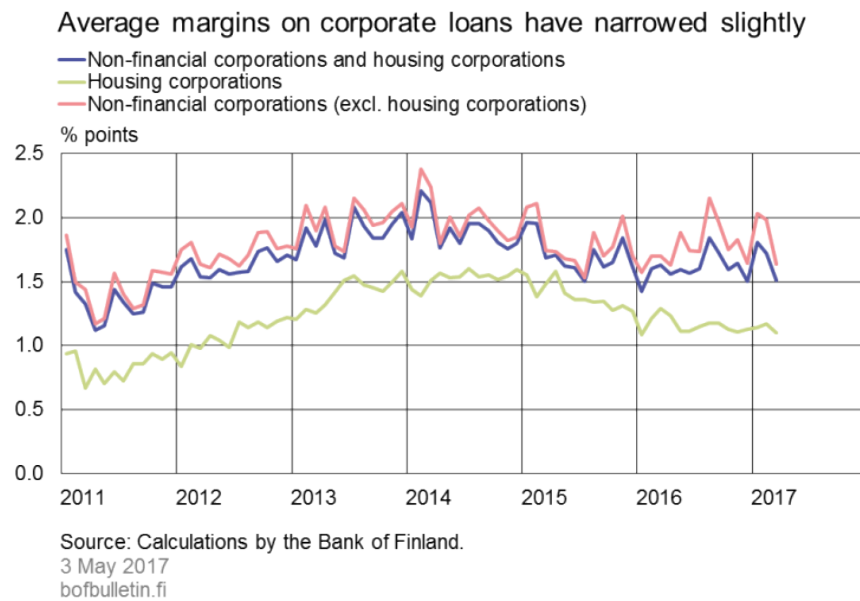
## Mixed signals on corporations' access to finance

Small and medium-sized enterprises (SMEs) are important employers in Finland. Young SMEs, in particular, are significant in creating jobs.

From the perspective of economic growth, it is important that weak access to finance does not prevent companies from growing and creating jobs. From the perspective of financial stability, in turn, it is important that access to finance does not fluctuate strongly with economic cycles and that the price of finance corresponds to the risks taken.

Access to finance for SMEs in Finland has remained good, on average, relative to recent years' weak economic developments, and better than the euro area on average.<sup>[1]</sup> Average margins on new bank loans to non-financial corporations have fluctuated around 2% (Chart 6). The stock of banks' corporate loans has also grown at a reasonable pace relative to economic developments.

Chart 6.



Corporate surveys show, however, that a relatively high share of SMEs have had difficulties in accessing finance.<sup>[2]</sup> Collateral requirements on bank loans have tightened in all euro area countries in the years since the global financial crisis, including Finland. On the other hand, this tightening has recently been flattening out.

Banks' lending capacity has been strengthened in recent years by capital adequacy regulation. Tighter regulation has somewhat tightened banks' corporate lending standards. Crisis experiences show, however, that only solvent and strong banks can offer the corporate and other economic sectors sufficient funding even under difficult economic conditions.

1. See [The European Central Bank's biannual survey on the access to finance of euro area enterprises](#).

2. Pk-yrittysbarometri 1/2017 ("The SME barometer 1/2017") of the Federation of Finnish Enterprises, Finnvera and the Ministry of Employment and the Economy [in Finnish only].

## Effects of indebtedness revealed in crisis situations

Due to its structural vulnerabilities, the Finnish credit institutions sector is permanently exposed to risks from lending and funding. The structural vulnerabilities of the sector include the high volume of lending for house purchase relative to credit institutions' own funds and other lending, and credit institutions' dependence on international wholesale funding that is partly collateralised by home loan mortgages.

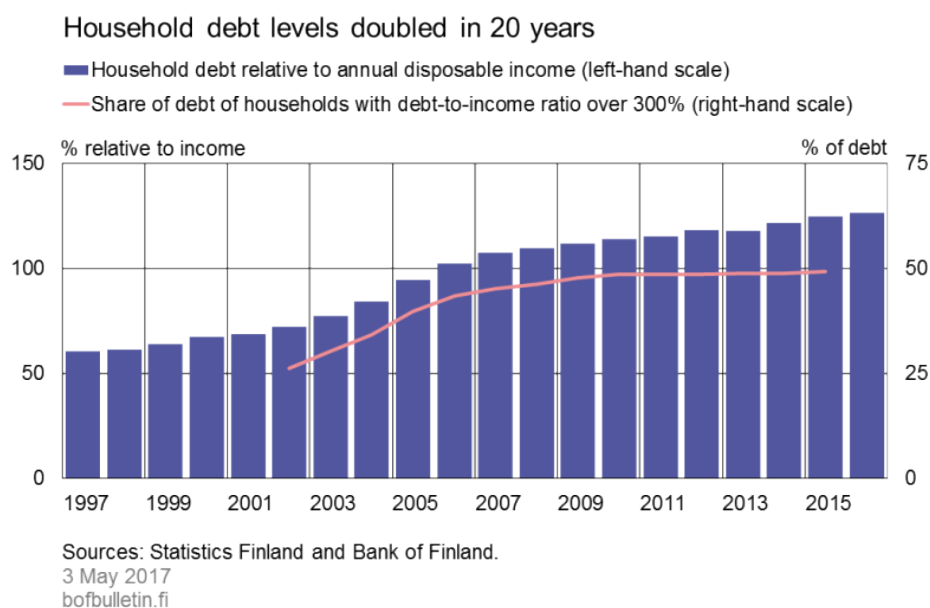
Because of the concentration and interconnectedness of the credit institutions sector, financial stability shocks could have particularly serious implications for Finland. Systemic risks associated with lending could, if materialised, disrupt financial intermediation and economic growth in the event of e.g. growth in credit losses, difficulties in funding by credit institutions and a shrinkage in lending. This would reduce private consumption and investment.

The European Systemic Risk Board (ESRB) warned Finland in the latter part of 2016 about the high level of household indebtedness and the associated medium-term risks. Finnish household indebtedness relative to income is at a record high. This debt has been accumulating for a prolonged period; it is primarily tied to variable interest rates, and mortgage-related debt is strongly concentrated on particular households (see '[Risks in long-term and large loans – Sweden's worry is also ours](#)').

Excessive household indebtedness has historically been one of the key factors underlying financial and economic crises. High debt accumulation increases households' tendency to reduce consumption in a situation of weaker-than-expected economic developments. Moreover, households that are strongly indebted relative to income are particularly vulnerable to higher interest rates and income losses, such as unemployment. Households that are strongly indebted relative to their assets, in turn, are vulnerable to falling house prices.

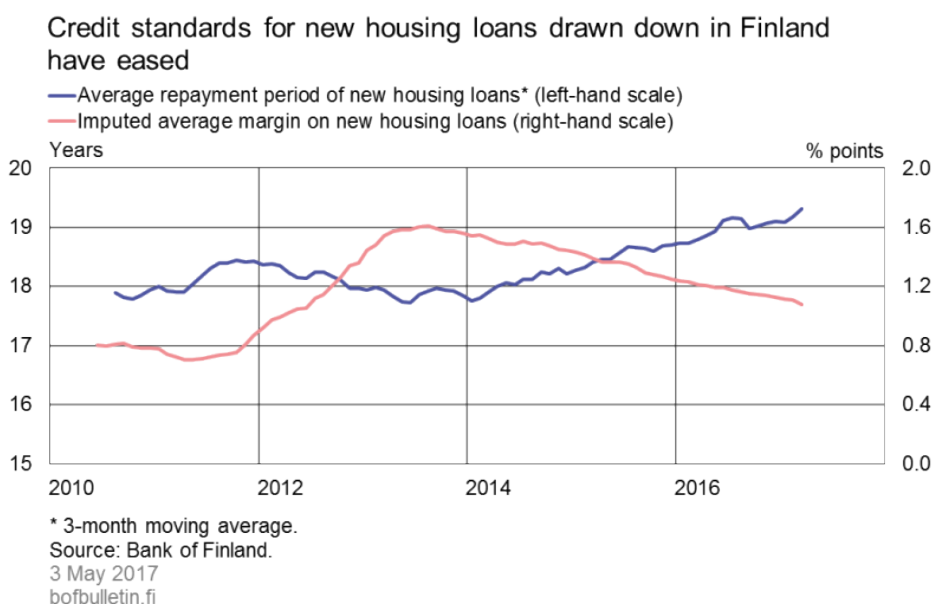
The moderation of household debt accumulation in the 2010s has been positive for financial stability. At the end of 2016, household debt relative to annual disposable income – the debt to income (DTI) ratio – was 126.9%, compared with 124.5% a year earlier (Chart 7). Debt and the related risks are, however, very unevenly distributed among households. Slightly over half of households have debt granted by financial institutions. Half of this debt is borne by households that have debt over three times their annual disposable income, i.e. whose DTI ratio is over 300%. These households account for about 10% of all households and one fifth of indebted households.

Chart 7.



Average maturities of new housing loans have lengthened slightly in recent years. The average margins have, in turn, contracted (Chart 8). Longer maturities and narrower margins can encourage households to take out larger loans (see ‘[Risks in long-term and large housing loans – Sweden’s worry is also ours](#)’). Further lengthening of loan maturities is not welcome from the perspective of the stability of housing markets.

Chart 8.



Regular and (compared with other Nordic countries) rapid amortisation of housing loans should continue in Finland. Loan amortisation is particularly important at the beginning of the loan term. This way households with mortgage debt can increase their financial



margin and housing equity buffer for protection against increasing interest rates or falling house prices.

Annual interest expenses on home mortgages are exceptionally low at present. However, households also have various forms of short-term consumer credit with higher interest rates that are in part not covered by regulation and statistics. Difficulties in servicing these debts have contributed to increasing payment defaults. Establishment of a positive credit register would help in obtaining a more comprehensive overall picture of the level and quality of household debt (see [“The overall picture of debt accumulation gets blurred as provision of consumer credit becomes diversified”](#)).

## Stable financing conditions benefit the economy at large

The European Systemic Risk Board (ESRB) and the International Monetary Fund (IMF) have drawn attention to Finnish authorities’ insufficient tools to tackle risks from household indebtedness. The ESRB considered the measures taken so far in Finland to mitigate indebtedness-related risks as appropriate but possibly insufficient.

The Finnish authorities do not have access to macroprudential tools implemented in some countries, the primary purpose of which is to ensure the loan applicant’s sufficient repayment capacity of home loans in terms of income. These tools include an income-linked loan cap, maximum mortgage maturity and an amortisation requirement.

The measures highlighted by the ESRB and the IMF would complement the current Finnish macroprudential toolkit and help maintain traditional and well-established lending practices. Prevention of housing price bubbles and the bursting thereof is in the interests of current and future households with mortgage debt, home owners and the economy at large.

The Bank of Finland and the Financial Supervisory Authority agree with the ESRB’s view on the risks from household indebtedness. The authorities have long emphasized the need to diversify and supplement the tools to tackle, when necessary, growth in risks and vulnerabilities threatening financial stability.

The Finnish Ministry of Finance emphasized in its response to the ESRB that the warning on risks relating to household indebtedness is taken seriously. The Government and authorities continue to monitor the situation and stand ready to take additional measures.

In addition to the mandatory macroprudential tools based on EU legislation, it is also possible to include other discretionary macroprudential tools in national legislation. The Ministry of Finance is currently drafting legislation to enable an additional capital requirement – the systemic risk buffer – on credit institutions on the basis of structural vulnerabilities in the credit institutions sector. The systemic risk buffer is already in use in some other countries.

A maximum loan-to-value ratio relative to the collateral provided for the loan – the loan cap – is based on Finnish national legislation and was effected in July 2016. The purpose

of the loan cap is to ensure the appropriate size of home loans relative to assets used as loan collateral and to the fair value of institutional guarantees.

However, the collateral-linked loan cap for new home loans is insufficient on its own to prevent household over-indebtedness, nor is the aim of mitigating overheating of the housing market realised optimally. Application of the current loan cap provisions would barely help in dampening a hazardous spiral in which sharp rises in house prices and collateral values leads to households taking out increasingly larger home loans (see '[How can we dampen the build-up of house price bubbles?](#)').

## Strong banking sector bolsters economic recovery

Capital adequacy in the Finnish banking sector has remained strong in recent years. The total capital ratio for the banking sector, measured as a ratio of own funds to calculated total risk exposure, stood at 23.9% at the end of 2016, against 23.1% a year earlier (Chart 9). The Common Equity Tier 1 (CET1) ratio calculated on capital of the highest quality was 21.7% (against 21.0% a year earlier).

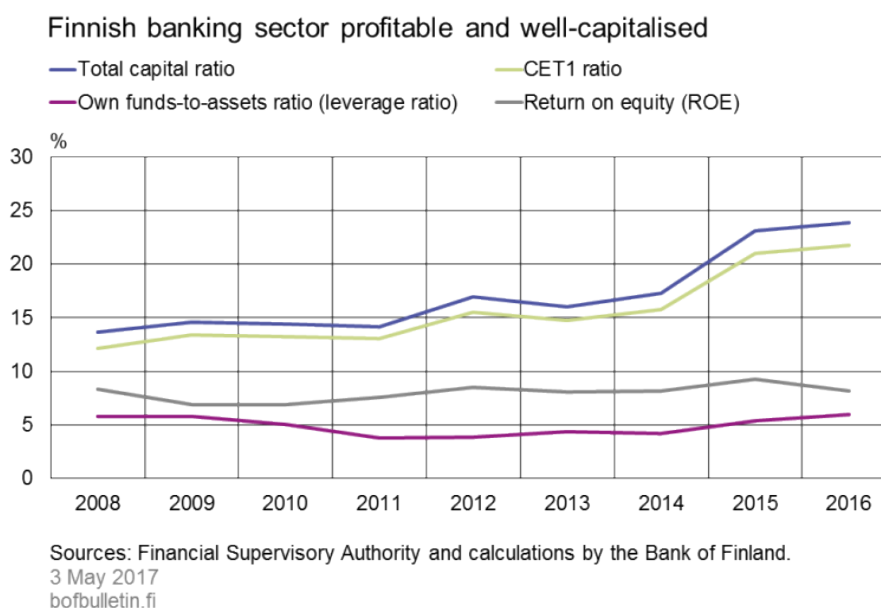
The improvement in capital adequacy was related to both retained earnings and new capital acquisition, which both also strengthened the leverage ratio, i.e. the ratio of own funds to balance sheet assets.

However, capital ratios for the domestic banking sector will change during the course of 2017. In February 2017, OP Group published information on the European Central Bank's (ECB) decision to increase risk weights on the Group's retail exposures for a fixed term of 18 months. In addition, the restructuring of Nordea Group is expected to cause a deterioration in the average capital ratios reported by the Finnish banking sector, as compared with the levels in 2016.<sup>[3]</sup>

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3. Financial Supervisory Authority (2017) Financial position and risks of supervised entities 1/2017.

Chart 9.



At the end of 2016, average capital adequacy in the Finnish banking sector fulfilled the total minimum Common Equity Tier 1 (CET1) requirements of 7–9% for credit institutions, by a clear margin. Credit institutions must maintain a minimum CET1 ratio of 4.5%, a capital conservation buffer of 2.5%, and an institution-specific additional capital buffer of 0–2% based on the systemic importance of the institution for the national financial system (O-SII buffer). For some banks, capital requirements are higher due to countercyclical capital buffers set by other countries for exposures to these countries.

As well as the additional capital requirements set for macroprudential reasons, institution-specific capital requirements may also be set for credit institutions based on the Supervisory Review and Evaluation Process (SREP).

In December 2015, the FIN-FSA Board stated that the mortgage loan risk weights of credit institutions using the Internal Ratings Based (IRB) Approach to calculate capital requirements are low, given the estimates of unexpected loan losses suffered in several consecutive years in a potential crisis. In March 2017, the Board decided to make preparations for setting a minimum risk weight of 15% for those credit institutions that have adopted the IRB Approach for the calculation of capital requirements for residential mortgage loans. The minimum level applies to the average risk weight on a credit institution's residential mortgage loan portfolio, and the aim is to have the minimum risk weight in force as from 1 January 2018.

Strong capital adequacy and good asset quality in the banking sector have contributed to maintaining well-functioning financial intermediation in Finland. Although the low level of interest rates and rising expenses have weighed on banks' earnings, the profitability of banking has, nevertheless, remained rather good in international comparison. The share of nonperforming assets in the credit stock was still very low, at 1.6%, at the end of 2016.

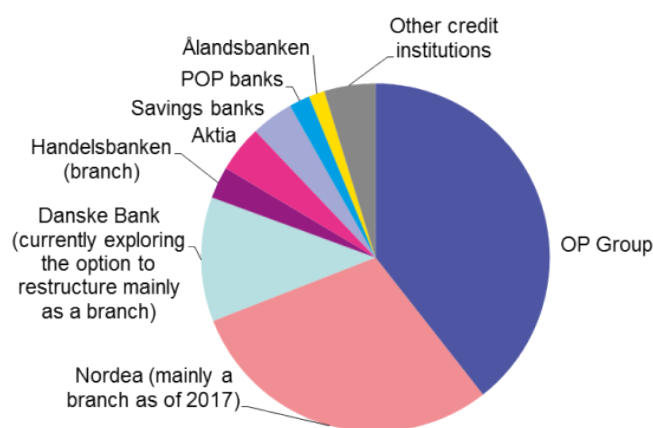
## Stronger interconnectedness and changes in supervisory responsibilities as banks rethink corporate structures

The conversion of Nordea Bank Finland from a Finnish subsidiary into a branch of the Swedish parent company at the beginning of 2017 designates a significant change in the Finnish financial system. The unveiling of similar restructuring plans by Danske Bank serves to reinforce this trend.

Following such changes, banking groups that operate mainly through branches in Finland would hold an estimated market share in excess of 40% of household mortgage loans, other household and corporate loans, and deposits (Chart 10). A combined market share for branches as large as this is highly exceptional in an EU country.<sup>[4]</sup>

Chart 10.

### Structural reforms increase market share of branches



Finnish MFIs' market shares of lending for house purchase at the end of 2016.  
Sources: Federation of Finnish Financial Services and housing loan data made available to it by the Bank of Finland.  
3 May 2017  
bofbulletin.fi

Reforms of banks' corporate structures do not, as such, present a threat to the stability of the financial system, but the resulting stronger interconnectedness between the Nordic countries will facilitate more direct spillover of potential problems across the countries.

The volume of credit supplied in one country by banks operating through branches is highly dependent on their business in other countries, as banks tend to optimise capital use and lending at the group level. Not only crises but also, for example, changes in regulatory frameworks or macroprudential policy in one country may have an impact on lending elsewhere (see 'Finland, the land of branches – the landscape of the Nordic banking sector').<sup>[5]</sup>

4. See ESRB, p 54, Figure B. 3.

5. See also Conversion of Nordea subsidiaries into branches – Nordic interconnectedness increases.

In March 2017, Nordea's management announced that they were contemplating a move of their head office away from Sweden. Nordea is the only Nordic bank designated as a Global Systemically Important Institution (G-SII). A relocation of Nordea's head office to Finland would make it subject to the Single Supervisory Mechanism (SSM) and Single Resolution Mechanism (SRM) of the Banking Union. Transfer of supervisory responsibility for Nordea to the ECB would increase the number of significant banks operating in Finland supervised by the SSM according to agreed harmonised criteria.

Such relocation would lead to a considerable expansion of the size of the Finnish banking sector relative to GDP. Provision should be made for an increase in the structural risks related to the expansion of the sector. The Nordic interconnectedness of the banking sector will, in any case, remain crucial and require close cooperation between the authorities responsible for banking and macroprudential supervision.

The Nordic authorities have already enhanced mutual cooperation and the preconditions for financial stability by entering into Memoranda of Understanding on the supervision of systemically important branches and on other cross-border operations.

The European regulatory framework does not adequately cater for the information needs of host country supervisors of systemically important branches, or the information sharing needs of the different supervisory authorities. Consequently, the framework should be reformed in this respect so as to better address the needs of host country supervisors. Furthermore, supervisors of branches also do not participate in group-level decisions on the consolidated supervision of a banking group, although such decisions have major implications for the stability of the host country's financial markets.

The third pillar of Banking Union, the European Deposit Insurance Scheme (EDIS), currently under construction, would also serve to promote financial stability. However, before migration to EDIS can take place, a sufficient asset quality of the participating banks must be ascertained and their capital adequacy tested.

## **Insurance companies and earnings-related pension providers financially solid**

Finnish life and non-life insurance companies have remained financially solid, fulfilling the new solvency requirements introduced at the beginning of 2016, by a clear margin.<sup>[6]</sup> Solvency has been underpinned by investment income, while the asset allocation shows no signs of a search for higher yield.

In the stress tests carried out on insurance companies in 2016, the solvency of the Finnish insurance sector withstood the two adverse scenarios employed. The low level of interest rates weighs much less on Finnish life insurers than on their EU counterparts, on average, as more than two-thirds of Finnish technical provisions are unit-linked, with a relatively minor share of technical provisions tied to a given rate of return.

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6. Financial Supervisory Authority (2017) Financial position and risks of supervised entities 1/2017.

Finnish earnings-related pension providers are also on a stable footing, and earnings-related pension funds were expanded by investment income in 2016. The amendments introduced at the beginning of 2017 improved the prospects of individual pension providers to take on more equity risk. Higher equity weights increase the volatility of investment income. Against the background that investment risks are increasingly diversified across the earnings-related pension scheme as a whole, it is important to assess the build-up of risks in the earnings-related pension sector overall.

## Smooth functioning of infrastructure must be ensured nationally

The proper functioning of payment systems and securities clearing and settlement systems is a precondition for the stability of the financial system. This financial market infrastructure has functioned reliably.

Developments in recent years have made Finland dependent on many international systems. This calls for better national preparedness for situations where international data communications or systems are unavailable (see [‘Payments must operate smoothly under all circumstances’](#)).

The digitalisation of financial services is also reshaping the payments scene and payment behaviour. Payments are becoming increasingly real time, while payment execution is getting easier and less visible. The emergence of new methods of payment further underscores the importance of consumers’ financial literacy: running out of banknotes and coins in the wallet does not serve as a budget constraint, which increases the chances of living beyond one’s means (see [‘Payments becoming increasingly real time and less visible’](#)).

## Financial stability policy gathers no moss

The winds of change are not blowing in Finland or the Nordic countries alone. The UK’s withdrawal from the EU, or Brexit, will have implications for the European financial markets in the immediate years ahead as the UK-based financial corporations that face exclusion from the EU reorganise their operations.

At this juncture, common European regulation, harmonized supervision and comprehensive coverage of macroprudential policy and tools are becoming increasingly relevant (see [‘EU macroprudential policy lays emphasis on residential mortgage loans and the banking sector’s structural risks’](#)). EU Member States seeking a competitive edge with lighter regulation and supervision would jeopardise the premise of financial stability and a level playing field on the EU financial markets.

Regulatory and supervisory coverage of credit institutions should be commensurate with the scope of the institution’s business and its significance for financial stability. It would be justified to consider granting minor, less significant credit institutions some concessions, for example from reporting requirements.

An important objective of the EU's Capital Markets Union is to diversify the funding sources available to businesses and, thereby, bolster investment and economic growth (see '[Capital Markets Union supports economic growth and employment](#)'). Growth in non-bank financial intermediation must be closely monitored to identify any emerging new vulnerabilities to the financial system.

The macroprudential instruments currently in place can be used mainly to regulate credit institutions' capital requirements and credit standards. Going forward, macroprudential policy and the macroprudential toolkit should be developed so as to ensure that the measures could, where necessary, be applied to key financial functions in terms of stability, such as lending, rather than to an individual group of institutions. This would enable application of macroprudential measures to all the providers of the service in question, whether credit institutions or other service providers.

Regulation and supervision must keep pace with the changes occurring in the financial system. This is best ensured when reforms of legislation and macroprudential policy continue to be guided by practical experience and based on regular reviews and global cooperation.

## Tags

- [financial stability](#)
- [macroprudential policy](#)
- [systemic risks](#)



# Risks in long-term and large home loans – Sweden's worry is also ours

29 MAY 2017 3:00 PM • BANK OF FINLAND BULLETIN 2/2017 • FINANCIAL STABILITY •

HANNA PUTKURI

- [Hanna Putkuri](#)  
Senior Economist

Household debt relative to income is currently at a record high in Finland and Sweden. High household indebtedness exposes both the financial system and the economy to risks. In Finland, home loans are typically paid off faster than in Sweden, which makes an average Finnish household with a mortgage less indebted. The comparison does not, however, dissipate national concerns. Rather, it shows that, if Finland follows the path that Sweden has taken, it would further increase both debt levels and risks.



## Household debt levels higher than ever before

The debt level of an average Finnish household has long been record high by national standards. One of the indicators of indebtedness – the ratio of households' total debt to annual disposable income (debt-to-income ratio, DTI) – climbed to a record high again in 2016, at 127%. In other words, debt has long increased faster than the income available for repayment plus normal consumption and savings. The majority of debt accumulation is due to mortgages, and in Finland the ratio of mortgage debt to annual income is about 83%.

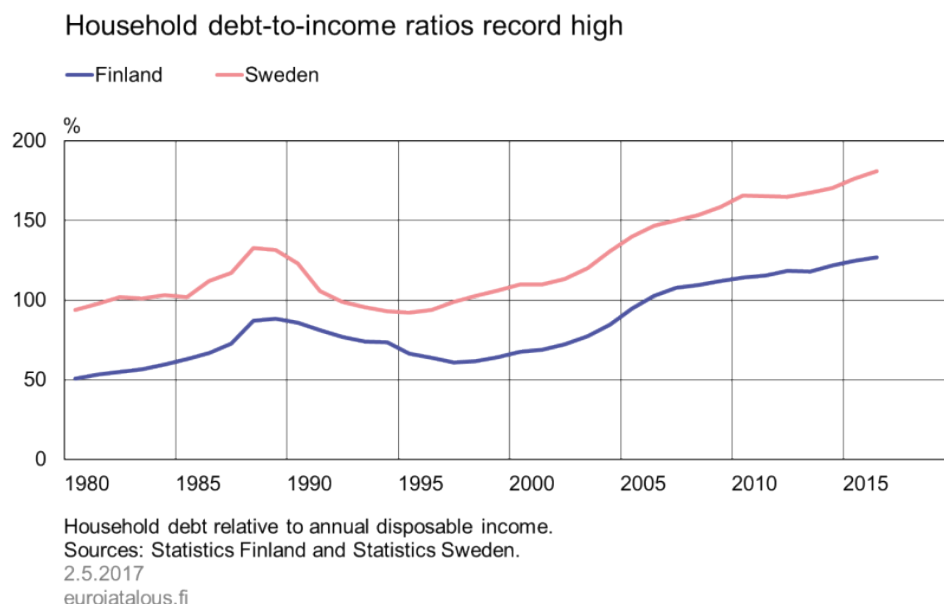
At the level of the economy as a whole, it is difficult to say how much debt is too much. In the latter part of the 1980s – just before the economic and banking crisis of the early 1990s – the household DTI ratio rose rapidly but was, even at its highest, significantly

lower than at present, i.e. below 90%. Rapid debt accumulation partly contributed to the onset and severity of the crisis.

The economic upturn and overheating of the 1980s was followed by the recession of the early 1990s. At that time, interest rates were markedly higher than at present, credit losses grew, lending partly dried up and households gradually deleveraged by paying off their loans. By 1997, the DTI ratio declined to around 60%, equalling the level before the exuberance of the late 1980s.

Since the turn of the millennium, households have continued to accumulate debt almost uninterruptedly. At the same time, the DTI ratio has doubled compared with the situation two decades ago (Chart 1). Debt accumulation continued also during the prolonged downturn of the 2010s, albeit at a slower rate. Debt developments in Sweden have shown a pattern similar to the trend in Finland, but the DTI ratio has been higher, about 180% at the end of 2016. How have we come to the current situation and should we be concerned about it?

Chart 1.



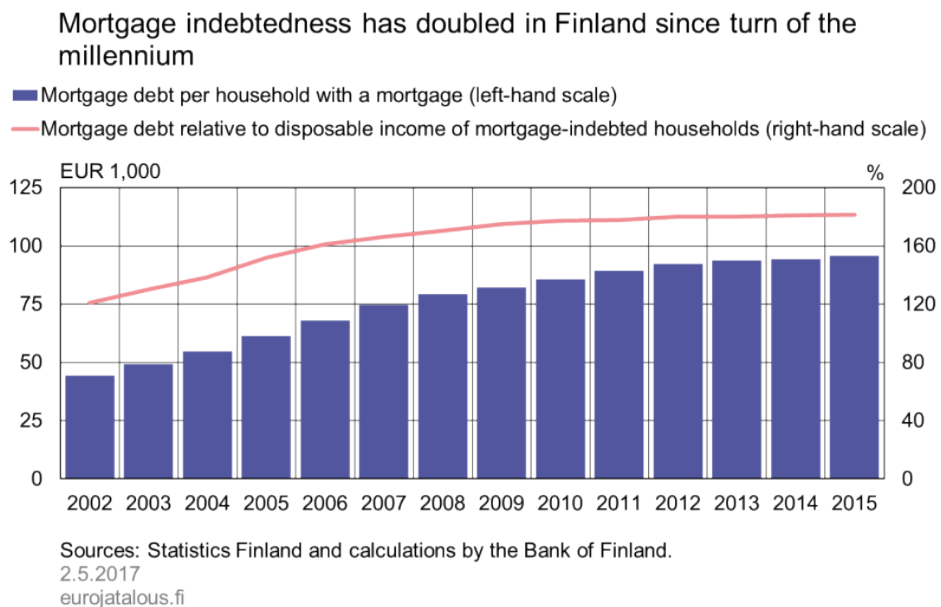
## Mortgage debt levels and loan maturities have doubled

Household debt accumulated rapidly during the first ten years of the new millennium, particularly when mortgage debt became more commonplace and households began to take out home loans in larger amounts and with longer maturities. At the same time, mortgage debt began to accumulate both in terms of amount per household with a mortgage and in relation to the income of these households.

At present, about every third household has a mortgage, in the amount of about EUR 96,000 per mortgage-indebted household (Chart 2). Looking at households with a mortgage, the mortgage loan-to-income (LTI) ratio averages 181%, i.e. it is significantly

higher than the LTI ratio for the household sector as a whole (83%). In 2002, mortgage debt averaged EUR 44,000 per mortgage-indebted household, and the LTI ratio for these households was 121% (Chart 2).

Chart 2.



At the end of the 1990s, new home loans in Finland typically had a maturity of 10–15 years.<sup>[1]</sup> In the 2010s, the typical maturity has been about 20 or 25 years, and in rare cases 30 years or longer. While loan maturities have almost doubled in less than two decades, the mortgage debt of an average household with a mortgage has almost doubled, too (Chart 3).

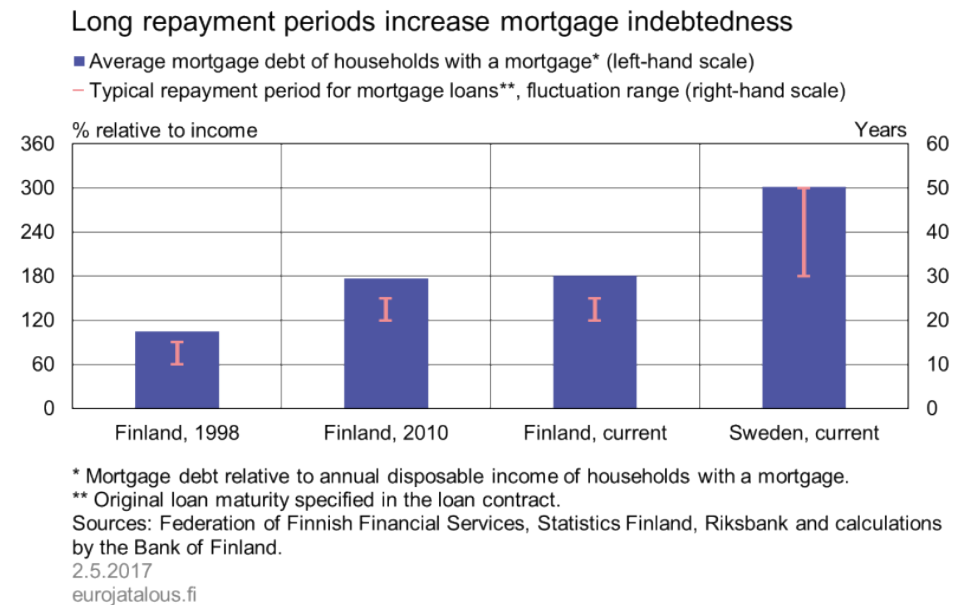
The current situation in Sweden also points to a connection between long loan maturities and high mortgage debt levels. The initial maturity of a new mortgage specified in the mortgage contract in Sweden is often about 30–50 years. In practice, however, only about half of households with a mortgage regularly pay down their debt.<sup>[2]</sup> An average mortgage holder has mortgage debt worth three times their annual disposable income (Chart 3).

Finland should not follow the Swedish path of indebtedness, as Sweden itself is already pressing the brake and searching for a new path. In summer 2016, Sweden introduced a new macroprudential tool, the loan-specific amortisation requirement, which pertains to new mortgages that are large relative to the purchase price of the house. A mortgage must be regularly amortised at least until the remaining amount is at most half of the value of the housing purchased and secured by the loan.

1. The average initial maturity of a new home loan has lengthened in Finland, from about 11 years in 1998 to the current 19 years. The data on repayment periods in the late 1990s are from the Federation of Finnish Financial Services Report 'Säästäminen, luotonkäyttö ja maksutavat' ('Savings, credit and payments'; in Finnish only) 2015.  
 2. Ölcer, D. – van Santen, P. (2016) The indebtedness of Swedish households: Update for 2016. Riksbank, Economic Commentaries No. 5, 2016.

According to the Swedish financial supervisor responsible for macroprudential policy (Finansinspektionen), the amortisation requirement has already contributed to the fact that some of the households with new mortgages have taken out smaller loans.<sup>[3]</sup> Big ships turn slowly, however, and the high mortgage debt levels already accumulated by households are a long-term structural concern.

Chart 3.



## The longer the loan maturity, the more expensive the loan

Longer mortgage maturities and lower interest rates have enabled debt accumulation without so far significantly increasing the monthly debt service burden of mortgage-indebted households. A longer maturity distributes the debt service burden over a longer period of time. In the whole, however, a loan is always more expensive, the longer the maturity or the higher the interest rate. Interest-only periods also prolong loan repayment, thereby increasing interest expenses for the loan period as a whole.

Interest expenses and loan losses from home loans have been minor in recent years both in Finland and Sweden, even though mortgage debt levels are record high. Even so, the risks from high indebtedness can materialise in a crisis situation in the form of both higher loan losses and lower consumption compared with a normal situation. Highly indebted households are more prone to reduce consumption expenditure in a downturn due e.g. to unemployment or falling house prices.

Because home loans are tied to variable interest rates, the ability of mortgage-indebted households to service the debt and maintain their previous consumption level may also be put to the test in an upturn, when interest rates rise. The average interest rate on outstanding home loans in Finland was record low in 2016, at only around 1.1%, and

3. Finansinspektionen (2017) The Swedish mortgage market.

interest expenses took an exceptionally small proportion of household income. Depending on the loan amortisation method, higher interest rates would either increase a household's monthly debt service costs or lengthen loan repayment. In any case, aggregate interest expenses for the loan period as a whole would increase.

In the example in the article '[How can the build-up of housing price bubbles be dampened?](#)' the Korhonen household takes out a mortgage of EUR 180,000 to purchase a house worth EUR 200,000. The loan maturity is 25 years and the interest rate on the loan is about 1.1%, as is currently the case, and hence the family's monthly debt service costs are EUR 687 (see the Table). Since the family's annual disposable income is EUR 40,000, debt repayment takes more than one fifth of the household's income each month.

Table.

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**The larger the loan, the longer the maturity or the higher the interest rate, the more expensive the loan**

Home loan, EUR	Interest rate, %	Monthly instalment, EUR	Maturity, years	LTI, %	DSTI, %	Total interest expenses, EUR
Fixed-instalment loan (fixed monthly instalment)						
180 000	1.1	687	25	450	21	25,965
180 000	3.0	687	36	450	21	112,979
180 000	6.0	687	Perpetual	450	21	Infinite
200 000	1.1	763	25	500	23	28,850
200 000	3.0	763	36	500	23	125,532
200 000	6.0	763	Perpetual	500	23	Infinite
Annuity loan (fixed loan maturity)						
180 000	1.1	687	25	450	21	25,965
180 000	3.0	854	25	450	26	76,074
180 000	6.0	1,160	25	450	35	167,923
200 000	1.1	763	25	500	23	28,850
200 000	3.0	948	25	500	28	84,527
200 000	6.0	1,289	25	500	39	186,581
Loan-to-income, LTI = home loan relative to annual disposable income (EUR 40,000).						
Debt service-to-income, DSTI = monthly instalment relative to monthly disposable income (EUR 3,333).						

**Source: Bank of Finland calculations.**

In the case of a fixed-instalment loan, the repayment period of the Korhonens' loan of EUR 180,000 would lengthen by 11 years, to 36 years, if the interest rate were to rise to 3%.<sup>[4]</sup> At the same time, the interest expenses for the overall loan period would more than quadruple if the interest rate were to remain at 3% for the entire 36 years. If the

4. According to a Bank of Finland survey among Finnish credit institutions, fixed-instalment loans account in euro terms for some 40% of outstanding home loans. See also [Asuntovelalliset ovat hyötynneet matalasta korkotasosta](#) ('Households with housing debt have benefited from low interest rates'; in Finnish only).

interest rate were to rise to over 4.5%, the principal of the loan would not decrease at all, because the fixed monthly instalment would need to exceed the original amount to cover even interest expenses.

In the case of an annuity loan, the loan maturity remains unchanged regardless of the interest rate level. If the interest rate rises, however, the monthly debt service burden and therefore the debt service burden for the overall loan maturity could substantially increase. If the interest rate were e.g. 3%, the monthly instalment would be almost a quarter higher than if the interest rate were 1.1%, and servicing the debt would take some 5 percentage points more from the Korhonens' monthly income.

The larger the loan relative to income, the more vulnerable the Korhonens will be to rising interest rates. For example, in the case of an annuity loan of EUR 200,000 (i.e. when the loan-to-income ratio is 500%), debt service costs would already take almost 40% of the household's monthly income if the interest rate were 6% and the loan maturity 25 years. The Financial Supervisory Authority (FIN-FSA) has urged banks to test the debt-servicing capacity of each new mortgage applicant at least against this interest rate and debt service scenario and to take it into consideration in their loan decision.

On the other hand, the Korhonens' financial margin would be larger if the initial loan were smaller relative to the household's income and part of the loan were repaid before the interest rate rises. This is why it is particularly important to amortise the loan at the beginning of the loan period when the remaining principal amount is at its highest.

## Housing market cooler in Finland than in Sweden

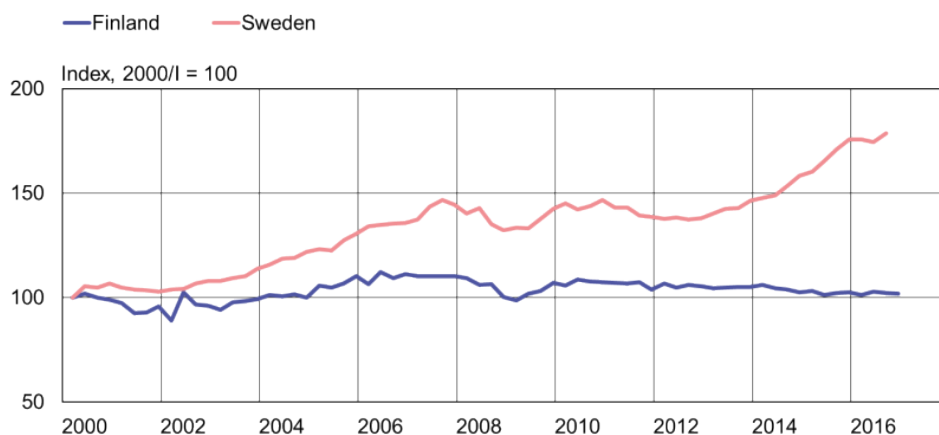
The moderation of household debt accumulation in Finland in the 2010s has served to contain the increase in risks and vulnerabilities. According to warning signals on the housing market, such as developments in house prices relative to household income, the Finnish housing market is not at present subject to a risk of overheating (Chart 4). The Finnish financial system is, however, permanently exposed to risks from lending for house purchase (see the [Bank of Finland's financial stability assessment](#)).

In Sweden, meanwhile, housing market vulnerabilities have also increased because house prices have long risen faster than household income. The rapid rise in house prices has given cause for concern over the long-term sustainability of the price level, especially in the event of rising interest rates. The chronic shortage of housing in growth centres, in particular, has contributed to rising house prices, especially when the availability of home loans has been good and mortgage interest rates have been exceptionally low. It is hazardous if rising house prices encourage a self-fuelling spiral of overly optimistic expectations.



Chart 4.

### House prices have risen faster in Sweden than income



House prices relative to annual disposable income of households.

Sources: Macrobond and calculations by the Bank of Finland.

2.5.2017

eurojatalous.fi

## Mortgage debt concentrated on just some households

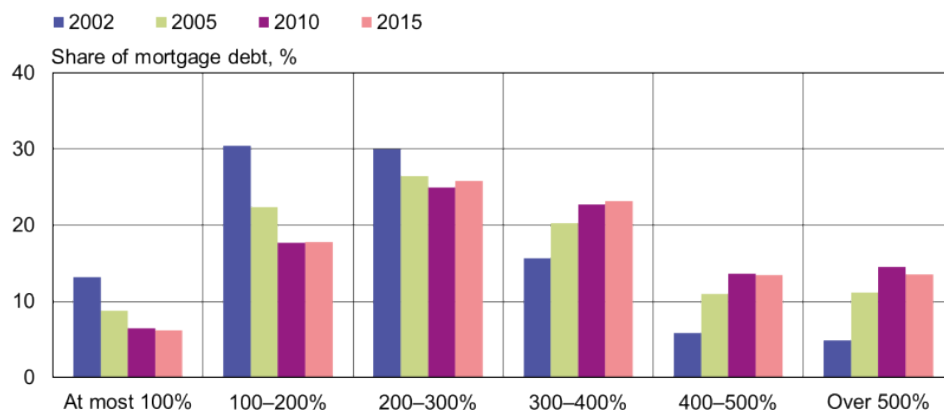
The authorities responsible for financial stability in Finland and Sweden alike agreed with the warning issued by the European Systemic Risk Board (ESRB) in the latter part of 2016, according to which high household debt concentrated on some households constitutes a significant risk over the medium term for both financial stability and the economy. The ESRB regarded it a shortcoming that national authorities lack powers to contain lending on the basis of debt-servicing capacity measured in terms of household income.

Household debt is predominantly mortgage debt, a considerable part of which is concentrated in households that are most indebted relative to their income. Half of all mortgage debt in Finland is with households whose total housing and other debts are over three times their annual disposable income. These households that are quite heavily indebted account for almost one third (29%) of all mortgage-indebted households and one fifth of all indebted households. Of all households, about one in ten is in this group.

Almost 7% of mortgage-indebted households have a debt-to-income ratio of over 500%, and these households' share of total mortgage debt is about 14%. The share in mortgage debt of these heavily indebted households grew considerably during the first ten years of the 2000s (Chart 5). Since 2010, in turn, this worrying trend has halted, which is positive from the perspective of financial stability.

Chart 5.

### Significant share of mortgage debt in Finland held by heavily indebted households



Horizontal axis: household's mortgage and other debt relative to disposable monetary income.

Sources: Statistics Finland and calculations by the Bank of Finland.

2.5.2017

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In Sweden, high DTI ratios for mortgage-indebted households are more common than in Finland. About every fifth Swedish household with mortgage debt has mortgage and other debts totalling over five times their annual disposable income (Chart 6). These households are particularly vulnerable to income losses and interest rate increases, and are therefore prone to reduce consumption in a tight financial situation.

Swedish authorities consider high household indebtedness a significant macroeconomic risk.<sup>[5]</sup> If materialised, the effects of the risks could spread to other Nordic countries through the economy and the banking system (see also [‘Finland, the land of branches – the landscape of the Nordic banking sector’](#)).

5. Riksbank (2016) Financial stability report 2016:2; Finansinspektionen (2016) Stability in the financial system 2016:2.

Chart 6.

### High debt-to-income ratios more common in Sweden than in Finland



Horizontal axis: household's mortgage and other debt relative to annual disposable income.

Sources: Bank of Finland and Riksbank.

2.5.2017

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### Tags

- [financial stability](#)
- [households](#)
- [indebtedness](#)
- [repayment period](#)
- [home loans](#)
- [mortgages](#)

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# The overall picture of debt accumulation gets blurred as provision of consumer credit becomes diversified

29 MAY 2017 3:00 PM • BANK OF FINLAND BULLETIN 2/2017 • FINANCIAL STABILITY •

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Finnish household debt accumulation is also rapidly increasing via consumer credit. The majority of these loans are still from credit institutions, but there is a growing number of channels for credit provision. Lending has grown both via foreign providers of credit operating online and through peer-to-peer lending services, and household debt accumulation from these sources is difficult to monitor.



Consumer credit refers to a loan that is granted mainly for the private consumption of goods and services. There are various forms and purposes of consumer credit. In addition to a traditional one-off loan, consumer credit can also be in the form of an overdraft, in which case the maximum amount of credit that can be drawn corresponds to the value of the account.

Large consumer credits are usually secured, but consumers can obtain small loans from various sources fairly rapidly and flexibly without collateral. Consumer credit is also taken out by credit card holders.<sup>[1]</sup> Moreover, many retailers offer consumers the opportunity to sign a consumer credit agreement in connection with the purchase of, for

example, a car or household appliance. Credit is also marketed in connection with the purchase of services, for example a holiday trip.

In contrast to credit from financial institutions, peer-to-peer lending services direct households into borrowing directly from each other. The forms and channels of lending are thus developing rapidly in an increasingly digitalised world.

As with borrowing in general, household consumer credit plays a key role in financial stability. In the worst case, excessive volumes of consumer credit may – together with other household credit, such as home loans – create a systemic risk from the perspective of financial stability.

## Consumer credit accounts for a significant share of household debt

Even though consumer credit is typically small in volume and short in maturity compared with, for example, home loans, it accounts for a significant share (some 12%) of aggregate household debt. Relative to its significance, there is fairly little data available on the purpose of consumer credit.

A survey<sup>[2]</sup> by the Federation of Finnish Financial Services indicates that the use of consumer credit is fairly widespread in Finland, as nearly 40% of respondents reported that they have consumer credit. This means that some 1.6 million Finns have consumer credit. The same survey shows that consumer credit is distributed more evenly between age groups than, for example, home loans.

Consumer credit is considered one of the key reasons for payment default entries. Payment default statistics by Suomen Asiakastieto show that in 2016 some 12% of payment default entries were due to consumer credit.

The majority of Finnish households' consumer credit is granted by credit institutions operating in Finland. Statistics compiled by the Bank of Finland show that in February 2017 Finnish households' consumer credit granted by credit institutions totalled EUR 14.6 billion. Of the consumer credit granted by credit institutions, 31% are overdrafts or credit card credit, and the rest is other forms of credit taken for the purpose of consumption. In most cases, consumer credit granted by credit institutions is covered by real-estate collateral, but over half of the credit is nevertheless unsecured.

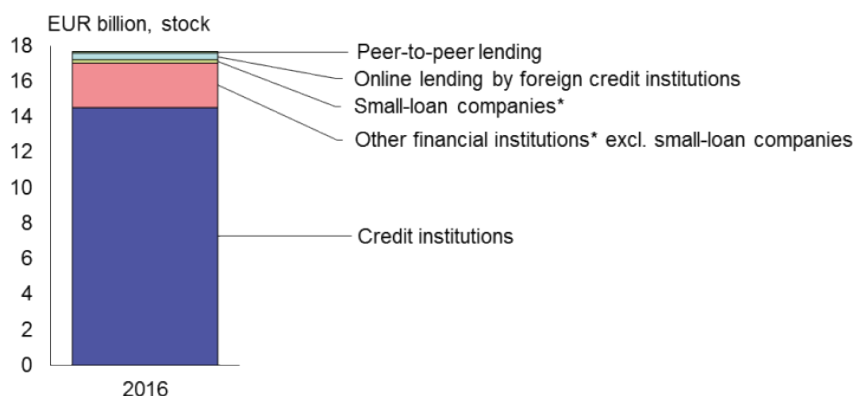
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1. A zero-interest loan until the due date of the invoice and extended credit card credit if the credit card balance is not fully repaid.

2. Säästäminen, luotonkäyttö ja maksutavat 2015 ('Savings, credit and payments', in Finnish only).

Chart 1.

### Majority of consumer credit is from credit institutions



\*The volume of consumer credit granted by other financial institutions is estimated based on financial accounts data published by Statistics Finland.

Sources: Bank of Finland, Statistics Finland, Ministry of Finance, and data published by providers of consumer credit.

19 April 2016  
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Even though in Finland a significant share of consumer credit is granted by credit institutions, the share of non-performing loans and loan losses on their credit has thus far remained moderate. The share of non-performing assets, i.e. unlikely to pay assets, in the stock of consumer credit was 2.8% in February 2017, and the amount of loan losses recognised in the past 12 months amounted to 0.7% of the credit stock.

The amount of loan losses recorded on consumer credit has also decreased in the past 12 months.<sup>[3]</sup> In other household loans, the share of problem loans is even smaller: in February 2017, non-performing loans amounted to 1.4% and loan losses to 0.07% of the loan stock in the past 12 months. The interest rates on consumer credit are, however, considerably higher than those on other household loans, and the average interest rate on consumer credit has not declined significantly in recent years, in contrast to the rates on loans taken out for other purposes.

## New players in the consumer credit market

In recent years, the provision of consumer credit has spread significantly to non-banks. In addition to banks, consumer credit has traditionally been granted by, for example, banks' finance companies lacking authorisation to pursue the business of a credit institution or companies providing car finance. In recent years, the consumer credit market has seen the arrival of various companies providing small loans<sup>[4]</sup> and, most recently, peer-to-peer lenders.

There is, however, little data available on the consumer credit market of institutions not authorised to pursue the business of a credit institution. According to data by Statistics

3. The share of non-performing loans in the loan stock has increased slowly in recent years, but this is partly explained by the more specified definition of 'non-performing loan'.

4. Instant loan companies.

Finland, Finnish households' consumer credit from other financial institutions totalled some EUR 2.7 billion at the end of 2016.<sup>[5]</sup> These financial institutions do not have authorisation to pursue the business of a credit institution and are not supervised by the Financial Supervisory Authority. Authorities have however started to register their activities otherwise. For example, since the beginning of 2017, companies providing credit and peer-to-peer lenders have been obligated to enter a register maintained by the Regional State Administrative Agency (AVI) Southern Finland.<sup>[6], [7]</sup> Even though there is currently no complete data available on the amount of small loans, Statistic Finland's data collection on small loans nevertheless shows that the stock of credit granted by small loan companies totalled EUR 119 million at the end of 2015.<sup>[8]</sup>

The Ministry of Finance, in turn, has been monitoring peer-to-peer lending<sup>[9]</sup> in Finland as part of preparations for the Crowdfunding Act. According to a survey by the Ministry, peer-to-peer loans by consumers totalled EUR 71.6 million in 2016, and the volume of borrowing is growing significantly. Online credit provided by foreign credit institutions is also increasingly popular. There is very little data available on this cross-border lending activity, but based on data disclosed by the entities, the stock of credit can be estimated at some hundreds of millions of euro.

In recent years, concerns have frequently been raised about the drawbacks of expensive consumer credit. According to Suomen Asiakastieto, consumer credit often triggers a spiral of payment default entries. The numbers of payment default entries and persons with payment default entries have risen in recent years, despite efforts to curb lending on the market for small loans by setting an interest rate cap on the loans. The interest rate cap has been circumvented by offering larger loans and limits to which the current loan cap does not apply.

Developments in small loan activity can be assessed partly on the basis of Bank of Finland statistics, as some of the finance companies engaged in small loan activity have authorisation to pursue the business of a credit institution and are thus included in credit institution statistics. The exclusion of these finance companies from other credit institutions gives a striking picture of the nature of the activities by small-loan companies.

The multiple annual interest rates and volumes of loan losses of credit institutions specialised in unsecured consumer credit compared with commercial banks provide an indication of differences in customers and operating models. It seems that the customers of these credit institutions have a lower creditworthiness than the customers of commercial banks. Some of the entities beyond the credit institution sector are also likely

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5. The estimate on the size of the loan stock is based on data compiled by Statistics Finland on loans granted to households by other financial institutions, and the sample may not be comprehensive in all respects.

6. On 4 April 2017 the register included 55 entities.

7. The Regional State Administrative Agencies (AVIs), together with the Finnish Competition and Consumer Authority, monitor the legality of the marketing of consumer credit as well as credit agreements.

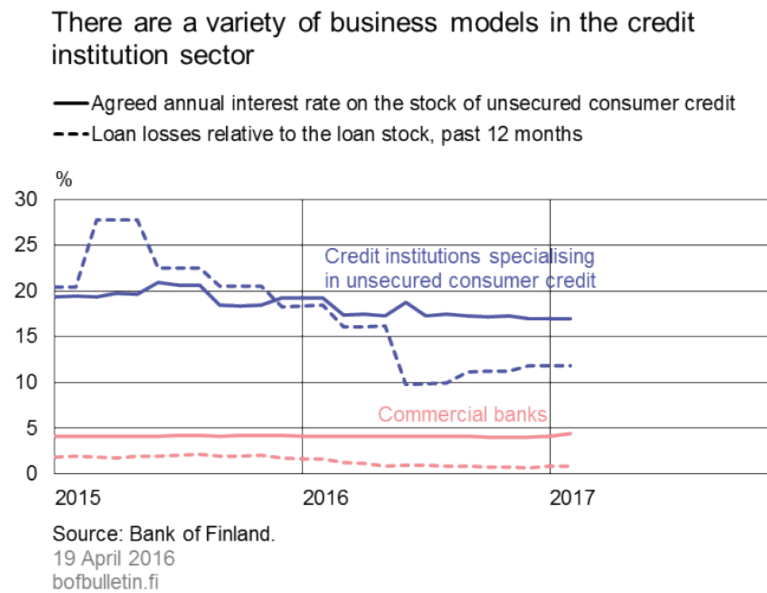
8. According to data by Statistics Finland, the annual growth rate of the loan stock was as high as 56%. Data collection has been discontinued.

9. Peer-to-peer loans fall within the scope of the Consumer Protection Act together with other consumer credit provided by other financial institutions.



to have similar levels of interest rates and loan losses. This view is also supported by statistics produced by some small-loan companies and peer-to-peer lenders.<sup>[10]</sup>

Chart 2.



## Risk resilience of new operating models not properly tested

The development of new operating models, digitalisation, lack of well-established definitions and reliable data, as well as fragmented legislation hamper the monitoring of consumer credit. The differences and risks of the various operating models may remain unclear to consumers.

There is a risk that the consumer credit stock of those entities will grow whose operating models and risk resilience have not been tested under different economic scenarios. The rapid growth in lending enabled by the new operating models as well as aggressive advertising may extend credit provision to persons with a weak ability to repay high-interest loans.

In the United States, some of the new players have been faced with problems generated by rapid growth. The stronger-than-expected growth in loan losses has already raised doubts over the resilience of the recently introduced operating models, and, for example, the amount of new consumer credit granted by peer-to-peer lenders has decreased strongly. In peer-to-peer lending, there is also a cause for concern in the credit risks to the investors. A survey conducted in the United Kingdom shows that some investors do not seem to be aware of the risks related to peer-to-peer lending.<sup>[11]</sup>

10. The volume and content of the data available do, however, vary significantly between entities. Some entities do not publish any data.

11. Deloitte (2016) Marketplace lending: A temporary phenomenon? An analysis of the UK market.

Currently, it does not yet look as if consumer credit will cause a systemic risk, but there is nevertheless a social risk. Households have to be vigilant in the management of their debt accumulation.<sup>[12]</sup>

On the other hand, the consumer credit stock and credit channels are developing at a rapid pace, and therefore it is advisable to consider how long the current volume of data on the consumer credit market will be sufficient.

Despite the importance of new operating models and innovations, they should not increase the drawbacks of debt accumulation. The larger role and risks of the new players have thus triggered a debate on the need for tighter regulation. Monitoring the situation would require more extensive reporting and data collection.

## Tags

- [consumer credit](#)
- [digitalisation](#)
- [peer-to-peer lending](#)
- [small-loan activity](#)

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12. At the same time, payment is becoming increasingly invisible. See article by Kari Kemppainen [Payments becoming increasingly real time and less visible](#) Bank of Finland Bulletin 2/2017.

# Finland, the land of branches – the landscape of the Nordic banking sector

29 MAY 2017 3:00 PM • BANK OF FINLAND BULLETIN 2/2017 • FINANCIAL STABILITY •

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The Finnish, Swedish, Norwegian and Danish banking sectors have broadly similar strengths and weaknesses. Their profitability is strong, capital adequacy solid, and loan losses have been at historically low levels for a long time. On the other hand, the national banking sectors are large and concentrated and their systemic risks relate largely to lending to the residential and commercial real estate markets.



It is useful to examine the Nordic banking system as one entity, as the national banking sectors have similar vulnerabilities and banks operate in several countries in the area. At the start of 2017, Nordea, the largest bank in the Nordic countries, converted its subsidiary banks in Norway, Finland and Denmark into branches.<sup>[1]</sup> Danske Bank has also announced that it is planning to convert to a branching arrangement in Finland. Even though these changes will be reflected only marginally in the everyday life of ordinary citizens, they will have a considerable impact on the supervision of banks by the authorities.

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1. In October 2016, Nordea established in Finland a mortgage credit bank for the issuance of covered bonds.

Cross-border banking has a long tradition in the Nordic countries: Nordic banks have operated in Finland, too, for a fairly long period of time. The Finnish Merita Bank and Nordbanken from Sweden merged in 1997. The Group also acquired other Nordic banks, and its name was eventually changed to Nordea. The Swedish Handelsbanken has operated in Finland since 1985. The Danish Danske Bank, in turn, acquired all the operations of the Finnish bank Sampo Bank in 2006. In addition to these banks, a small number of other Nordic banks have operated or are still operating in Finland on a smaller scale, specialising in, for example corporate finance.

Due to the spread of the branch structure, it is even more important to examine the Finnish banking system as part of the Nordic banking sector for financial stability purposes. In the identification of possible threats to stability, it is not sufficient to look only within national borders, because the Nordic banking sectors are interconnected via their assets and funding.

In this article, we assess the risks to the Nordic banking system using the CAMELS rating system developed in the United States. This consists of the assessment of six components: *Capital adequacy, Asset quality, Management capability, Earnings, Liquidity and Sensitivity to market risk (hence CAMELS)*. The rating system is usually applied to individual banks. In this article, we apply the system to the banking sector on a country level, and therefore the assessment differs slightly from the traditional. For example, in connection with market risk, we also discuss systemic risks, in addition to the risks to individual banks.

## Capital adequacy (C)

The capital adequacy of the Nordic banking sector has continued to strengthen (Chart 1). This is due to good profitability and the tighter capital requirements imposed by the authorities following the financial crisis, and also to the decrease in the average risk weights of assets. All the Nordic countries have imposed on systemically important banks a capital conservation buffer requirement of 2.5% as well as additional capital requirements. In addition, Norway and Sweden introduced in 2014 a countercyclical buffer requirement (as an EEA country, Norway is also largely within the scope of common EU legislation). The decrease in risk weights is due mainly to the use of banks' internal credit risk models in capital adequacy calculations (Chart 2). Norwegian and Swedish authorities have, however, raised the minimum risk weights on housing loans, and the Financial Supervisory Authority, the Finnish supervisor, also announced earlier in spring 2017 its aim to set a higher risk weight on residential mortgages. Sweden's supervisory authority has implemented the higher risk weights by tightening the Pillar II requirement, as a result of which they do not affect the capital ratios.

Chart 1.

### Banking sector average Core Tier 1 capital ratios by country

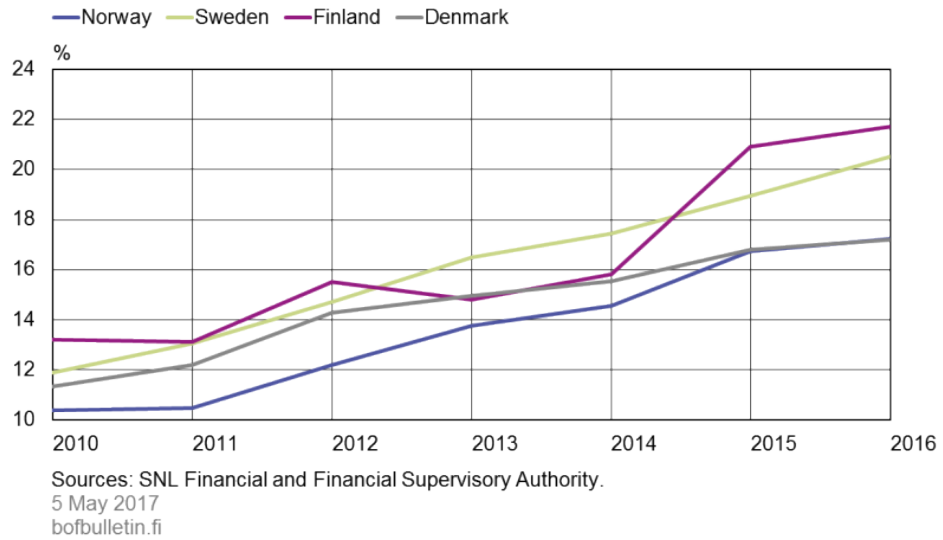
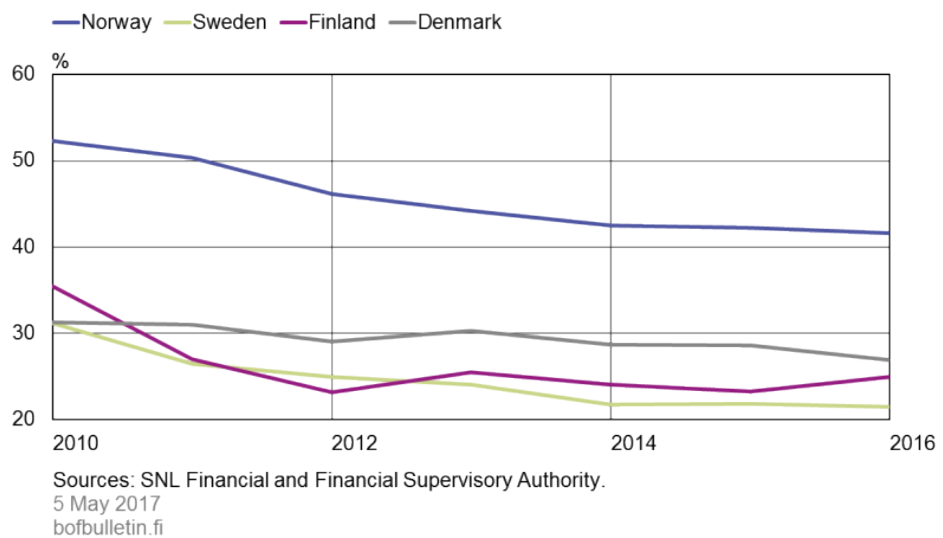


Chart 2.

### Average risk weights of assets



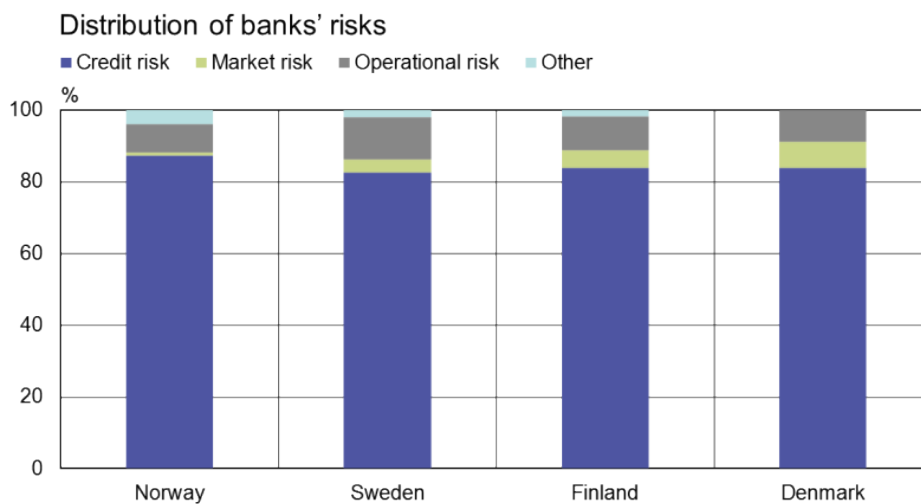
## Asset quality (A)

Based on risk-weighted assets, the risk on a bank's balance sheets can be divided into credit risk, market risk, operational risk, and other risks. The majority of the risks on banks' balance sheets is lending-related credit risk (Chart 3). Market risk, in turn, is usually related to banks' securities holdings and trading, and at the end of 2016 its share was largest in Sweden, Finland and Denmark.

As to risks related to securities trading, the Nordic countries are characterised by the fact that many large banks act as market makers in the market for covered bonds. In

addition, as banks use covered bonds issued by other banks for liquidity management purposes, the volume of securities cross-holdings can be significant. For example, statistics from Sweden's Riksbank show that in Sweden securities cross-holdings amount to some 30% relative to banks' equity. In addition to the risks described above, banks are also assigned an operational risk category, based on the size of their business lines.

Chart 3.

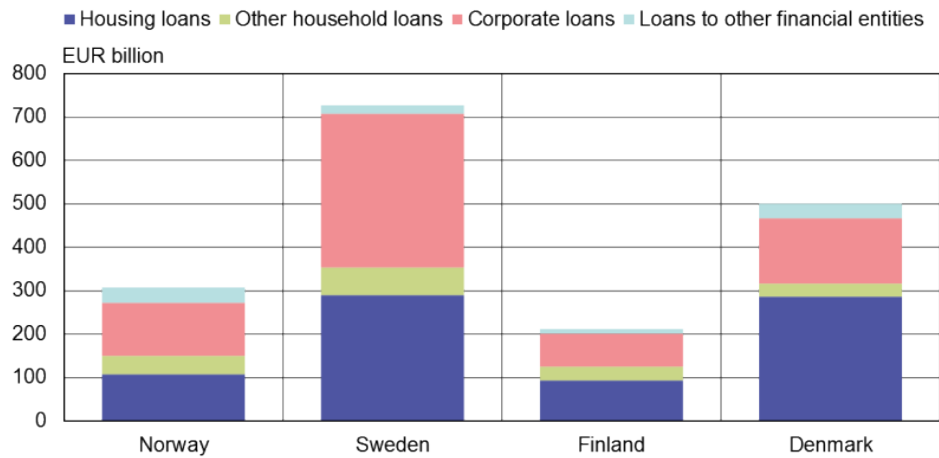


Sources: SNL and Financial Supervisory Authority.  
5 May 2017  
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Banks grant loans to households and non-financial corporations (Chart 4). The majority of household loans are housing loans, and due to the real-estate collateral, they are lower-risk than most of the other loans granted by banks. The Nordic countries are characterised by a relatively high volume of housing loans both in absolute terms and in respect of their share of bank lending. In statistics, corporate loans usually refer to loans to non-financial corporations. Nordic banks also grant small volumes of credit to insurance companies, pension providers and other financial sector entities.

Chart 4.

### Distribution of banking sector credit, 31 October 2016

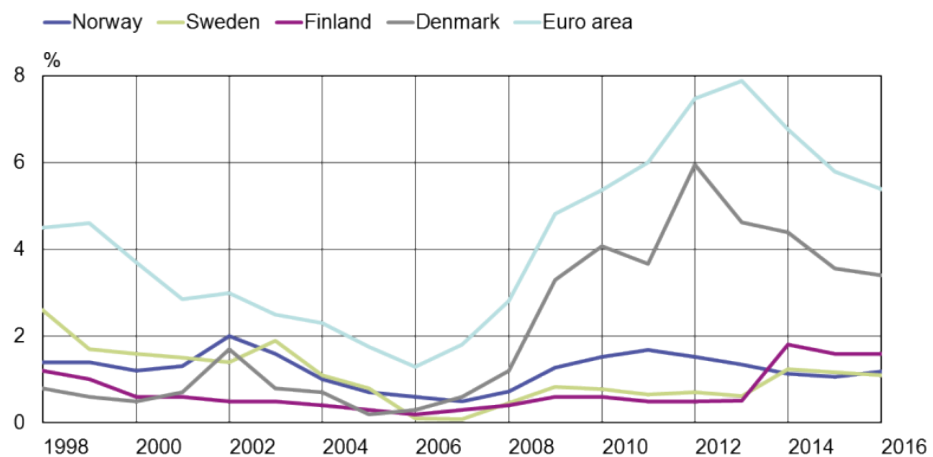


Sources: ECB and Statistics Norway.  
5 May 2017  
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Non-performing loans and loan losses have for a long time been at low levels in nearly all the Nordic countries (Chart 5), which has supported banks' profitability. An exception to this is Denmark, where the financial crisis was followed by the bursting of the housing market bubble and a recession, as a result of which many companies, in particular, had difficulties in servicing their loans. This triggered a banking crisis, in which some 60 small banks typically involved in commercial real estate finance were wound down. The volume of non-performing loans has since started to decline and there have been reversals of loan losses, reflecting the strengthening of the Danish economy. In Finland and Sweden, a level-shift in the share of non-performing loans can be observed in 2014, reflecting the harmonisation of the definition of 'non-performing loan' at European level.

Chart 5.

### Share of non-performing loans by country



Sources: IMF and Financial Supervisory Authority.  
5 May 2017  
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## Management capability (M)

The Nordic countries have banking groups with various organisational structures. Some are large international commercial banks and others are smaller banking groups usually operating in only one country. Moreover, in Finland and Denmark, a significant share of banking activity is in the form of cooperative banking, and all the Nordic countries have a large number of small savings banks.

In the examination of cross-border interdependencies in the Nordic countries, particular attention must be paid to Swedish and Danish banks that operate in several countries. These banks optimise their use of capital and lending at Group level. The lending activities of a multinational bank in one country are therefore dependent on its businesses activities in other countries. Studies show that in a financial crisis, multinational banks, and particularly their branches, are, in the event of a negative shock, more prone to reduce lending than banks operating in one country only.<sup>[2]</sup>

## Earnings (E)

The historically low level of interest rates in recent years has burdened the Nordic banking sector's net interest income. Subdued growth in loans and deposits has provided only little support to net interest income. Developments in banking sector profitability have however, on aggregate, been fairly stable since 2013.

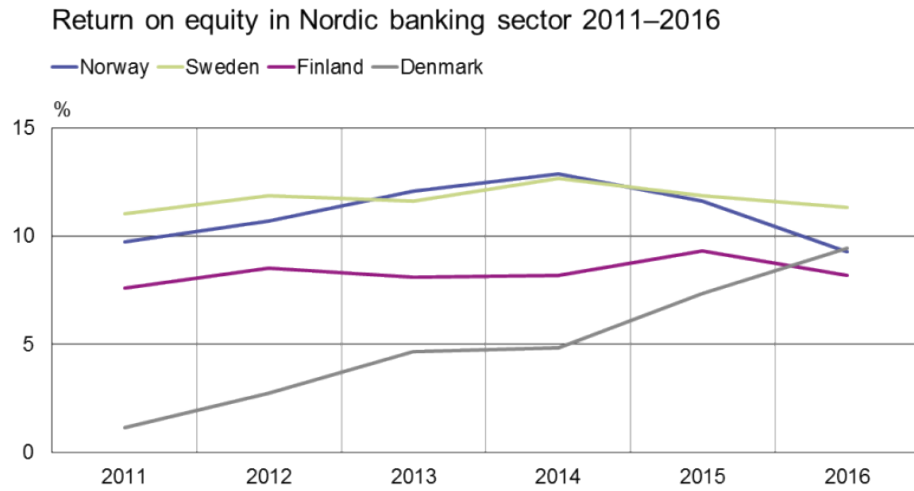
Measured in terms of return on equity, the highest profitability levels have been recorded in Norway and Sweden (Chart 6). The Danish banking sector has continued to improve its profitability since the banking crisis in 2008–2010, and in 2016 its profitability levels were higher than those of the Finnish banking sector.

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2. De Haas – Van Lelyveld (2014) Multinational Banks and the Global Financial Crisis: Weathering the Perfect Storm? *Journal of Money, Credit and Banking*. Vol 46, 1, 333–364; Popov – Udell (2012) Cross-border banking, credit access, and the financial crisis. *Journal of International Economics*. Vol. 8, 1, 144–161; Bank of England (2015) On a tight leash: does bank organizational structure matter for macroprudential spillovers? Working Paper No. 524.



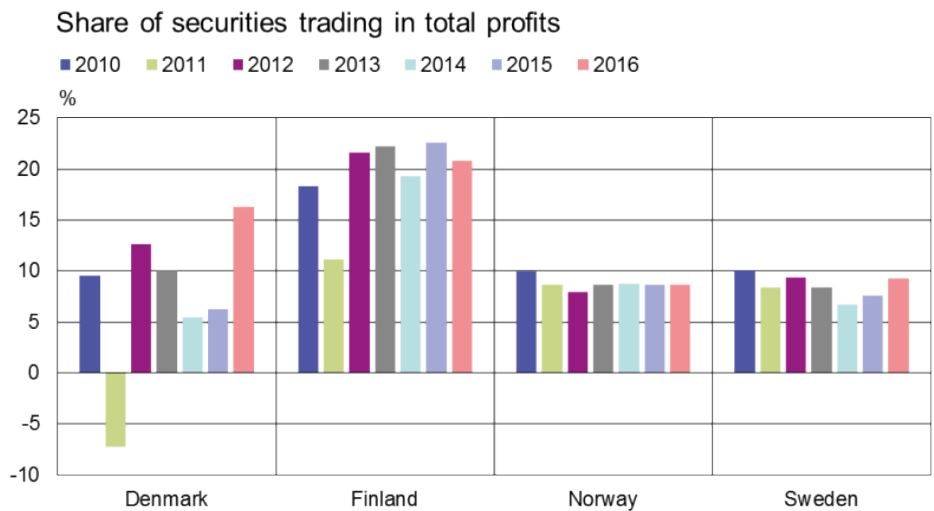
Chart 6.



Sources: SNL Financial and Financial Supervisory Authority.  
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In terms of the cost-to-income ratio, the Norwegian banking sector has for a long time been the most efficient in the Nordic countries, but the Swedish banking sector is not far behind. In Nordic comparison, the Finnish banking sector is characterised by the high share of net income from trading and investment activities in total profits (Chart 7), and correspondingly, the decrease in the share of net interest income. The share of net interest income in total profits has been falling without a break since 2012, and in 2016 it accounted for only 40% of total profits. This may increase volatility in total profits, as the amount of net income from trading and investment activities may vary considerably from year to year, whereas net interest income has typically been more stable.

Chart 7.



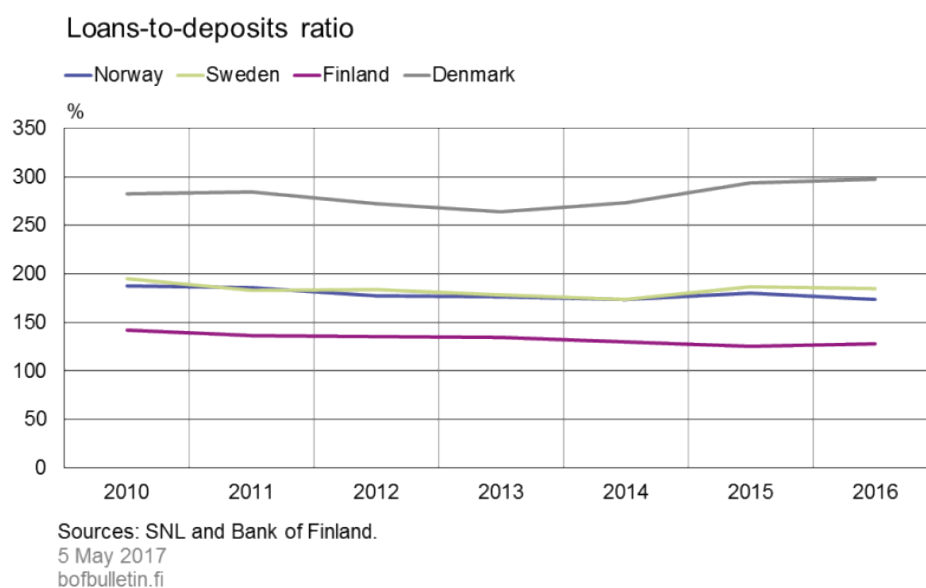
Sources: SNL Financial and Financial Supervisory Authority.  
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In connection with the restructuring at the turn of the year, Nordea transferred its trading portfolio to Sweden, which may change the situation for the Finnish banking sector.

## Liquidity (L)

The Nordic banking sector's loans-to-deposits ratio is high by international standards (Chart 8). The banking sector must cover its funding gap by means of equity and also market funding, in which a key role is played by covered bonds, and in Sweden also by short-term dollar funding. The latter exposes the Swedish banking sector to funding risk, as long-term credit is financed with short-term funding. There may also be problems if the markets for currency swaps do not function.

Chart 8.

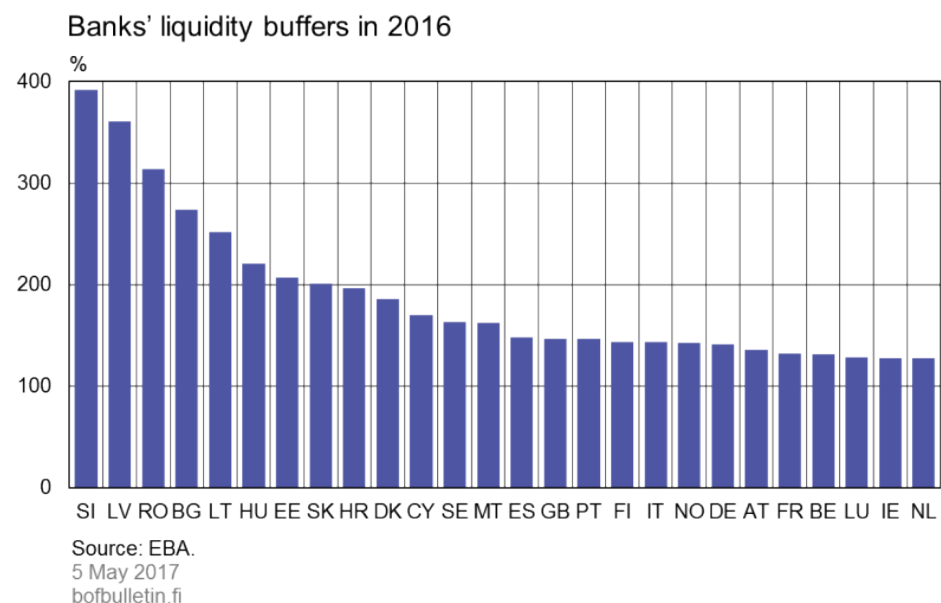


Covered bonds provide double security to investors: the bond is covered by collateral reserved mainly for it, typically a high-quality mortgage portfolio, and, if necessary, by the issuer's other assets. Despite their generally very good credit ratings, covered bonds may cause systemic risks. An adverse stress to the housing market may be reflected as a rise in the risk premia of covered bonds, which would increase the cost of funding. The rolling over of covered bonds that are maturing would be hampered in the event of an increase in the credit risk on the stock of housing loans. In addition, banks' liquidity buffers include a large amount of covered bonds, and a decline in their value would further hamper funding. In addition to financial stability, the maintenance of stability on the housing market is therefore important for banks' funding.

Due to the special Nordic features, it is important that banks prepare for funding risks. Nordic banks have prepared for disruptions in market funding by maintaining liquidity buffers that are larger than the current minimum requirement in the EU (80%; CRDIV). This is due to, for example, the fact that many Nordic countries already adhere to the

minimum liquidity coverage requirement of 100% that will enter into force in the European Union in 2018 (Chart 9).

Chart 9.



## Sensitivity to market risk (S)

Market risks accounts for only a small share of the banking sector's total risk, i.e. risk-weighted-assets (Chart 3), the majority of market risk being interest rate risk. The materialisation of interest rate risk depends on the size of the interest-bearing items and changes in interest rates. In Finland, a general rise in interest rates would typically boost banking sector net interest income, as the interest rates on loans would rise more than deposit rates.

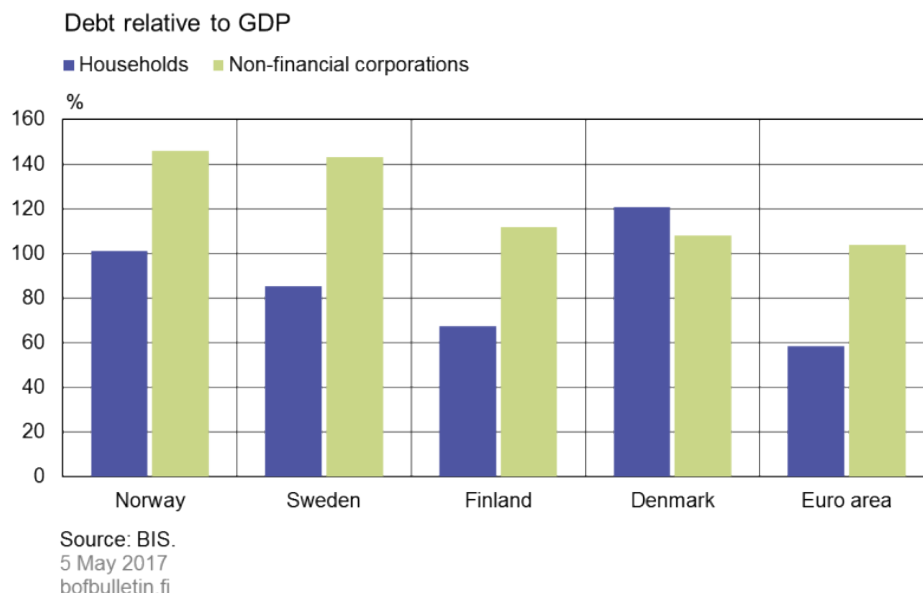
The materialisation of interest-rate risk could also have macroprudential effects. Market interest rates reached extremely high levels in Finland during the 1990s recession, and Helibor-tied interest rates on loans increased the interest expenses for households. Reflecting the large interest expenses and high unemployment, loan losses on household loans increased, but at a significantly slower pace than loan losses on corporate loans.

Households adjusted to the difficult situation by reducing consumption, to at least be able to service their housing loan. The reduction in consumption, however, put a further strain on the macroeconomic situation. Borrowers should therefore have adequate buffers for servicing their loan, in particular since the interest rate risk for households is nowadays higher. The share of Euribor-linked housing loans has risen to 90%.

Household indebtedness is high in all the Nordic countries (Chart 10). Economic research shows that there is a strong link between household debt accumulation and financial crises.<sup>[3]</sup> To prevent systemic risks, Nordic countries should in the long term seek to curb the rise in the already high levels of household debt.

What would be an appropriate level of debt? There is no ultimate truth to this, but, for example, a BIS Working Paper<sup>[4]</sup> published in January 2017 suggests that the negative long-run effects of household debt on consumption tend to intensify as the household debt-to-GDP ratio moves above 60%.

Chart 10.



## Banking sector is sound, but continued vigilance is required

Overall, the Nordic banking sector's capital adequacy is extremely strong, due partly to the low risk weights in the internal credit risk models, and partly to the banks' good profitability and provisioning. Despite the shrinkage of net interest income, the sector's profitability has remained good, supported by the low level of loan losses as well as income from trading and net fee income.

However, the Nordic countries must not get lulled into a sense of complacency as regards the low level of loan losses, because pronounced vulnerabilities can be identified in the financial system. The high levels of household debt, the strong rise in house prices in some countries, and economic growth that is largely dependent on domestic demand expose the Nordic banking sector to medium-term risks. The spreading of possible financial shocks depends in the Nordic countries typically on, for example, the large size of the banking sector, the degree of concentration, branches and interconnectedness caused by covered bonds. It is therefore necessary to focus attention on these features.

3. Jordá – Schularick – Taylor (2015) Leveraged bubbles. *Journal of Monetary Economics*, 76, Supplement, pp. S1–S20. Detken et al. (2014) Operationalising the countercyclical capital buffer: indicator selection, threshold identification and calibration options. ERSB Occasional Paper Series No. 5 / June 2014.

4. BIS Working Paper (2017) The real effects of household debt in the short and long run.

## Tags

- [banking sector](#)
- [banks](#)
- [capital adequacy](#)
- [profitability](#)
- [systemic risks](#)

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# How can we dampen the build-up of housing price bubbles?

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Finland has prepared for risks on residential mortgage loan markets by setting a maximum loan-to-value ratio for housing loans. In addition, preparations are currently underway for imposing minimum risk weights on housing loans granted by banks. On top of these, to curb borrowing it would be advisable to consider the adoption of tools that take household income into account, such as loan-to-income caps. In this article, we use simple examples to illustrate how such instruments could be deployed to restrain dangerous growth in lending for house purchase and household debt, but will not express an opinion on the superiority of one tool over the others. Different instruments supplement each other, and no individual tool can solve all problems.



Household indebtedness and structural vulnerabilities on the Finnish housing market have already for some time been causing concern for the relevant authorities. Steps have already been initiated to forestall these risks. A maximum loan-to-value ratio (loan cap) restricting the maximum size of new housing loans relative to the collateral provided for the loans entered into force in July 2016. Meanwhile, the Financial Supervisory Authority (FIN-FSA) is preparing the imposition of minimum risk weights for housing loans in the calculation of banks' capital requirements.<sup>[1]</sup>

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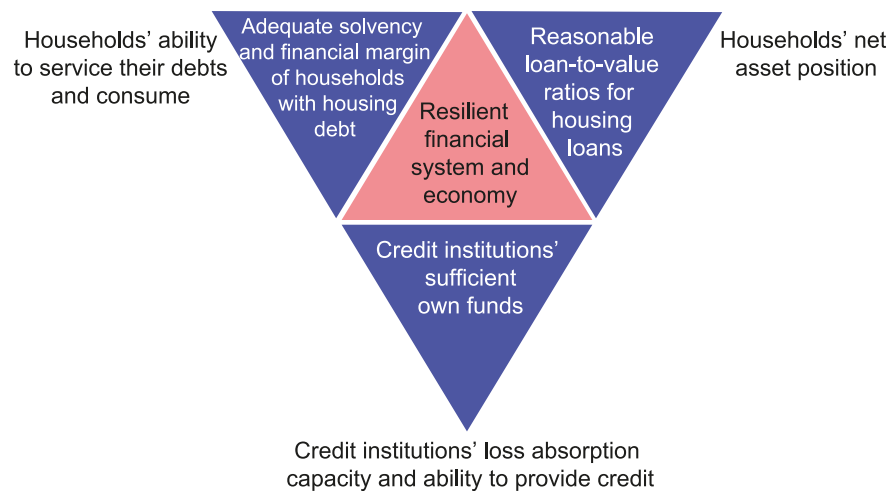
1. See a press release on the decision by the Board of the Financial Supervisory Authority [http://www.finanssivalvonta.fi/en/Publications/Press\\_releases/Pages/05\\_2017.aspx](http://www.finanssivalvonta.fi/en/Publications/Press_releases/Pages/05_2017.aspx).

The maximum loan-to-value ratio will reduce, among other things, the likelihood of the value of household housing wealth falling below the value of housing debt if housing prices fall strongly (the right-hand vertex of the ‘safety triangle’ in the chart). The more certain it is that the value of household housing wealth remains higher than debt, the lower will also be the risk of loan losses for banks. Another aim of the maximum loan-to-value ratio is to help prevent excessive volatility in housing prices.

Minimum risk weights, in turn, maintain banks’ loss-absorption and lending capacity in serious housing market disruptions (the lowest vertex of the triangle). Other decisions on tightening capital requirements for banks have a similar effect.

Chart.

### Resilience of the economy, the financial system and households relative to housing loan-related risks



Source: Bank of Finland.

21 April 2017  
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However, the Finnish authorities lack binding tools to ensure households’ debt-servicing ability (the left-hand vertex of the triangle). The following simplified examples illustrate that these instruments could be useful particularly in a strong housing market boom, where the rise in housing collateral values and lending for house purchase begin to reinforce each other. Having reached an unsustainable level, such an upward spiral could unravel at the turning of the business cycle and manifest itself in the form of a strong decline in collateral values, which would aggravate economic problems by increasing banks’ loan losses and reducing consumption by indebted households.

## A rise in house prices feeds households’ borrowing capacity

We shall examine an example, the Korhonen household, who are planning a house purchase. The Korhonen have EUR 20,000 in savings. The home to be purchased is the only asset item they can provide as collateral for their housing loan (Table 1).

Table 1.

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### Maximum size of the Korhonen family's housing loan and maximum house price at initial stage

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Self-financing share	EUR 20,000
LTV	90%
Maximum size of housing loan	EUR 180,000
Maximum price of home to be purchased	EUR 200,000

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**Source: Bank of Finland.**

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If the housing loan is subject to a 90% maximum loan-to-value ratio, the Korhonens will be able to purchase a home worth at most EUR 200,000 by using their savings (EUR 20,000) as the self-financing share of the new home and by taking out the maximum loan allowed by the loan cap, EUR 180,000 ( $0.9 \times \text{EUR } 200,000 = \text{EUR } 180,000$ ). By restricting the size of the housing loan of the Korhonen family and other households in a similar situation, the loan cap can rein in the granting of housing loans and the rise in house prices.

We assume, however, that the Korhonens purchase their home just before a rapid housing price increase of 5%, which boosts the value of the Korhonens' home, bringing it to EUR 210,000. The Korhonens decide to make use of the rise in the (collateral) value of their home and take out a bigger housing loan and purchase a bigger home.

The Korhonens sell their home and pay off their housing debt, whereupon they will be left with EUR 30,000 as a self-financing share for the purchase of a new home. This higher self-financing share, which is required to account for at least 10% of the total house price, now enables the Korhonens to take out a loan of EUR 270,000 and purchase a home worth EUR 300,000 (Table 2).<sup>[2], [3]</sup>

Table 2.

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2. The maximum euro amount of a housing loan according to the maximum loan-to-value (LTV) ratio for household  $i$ ,  $L_{LTV}^i$ , is obtained from the formula  $L_{LTV}^i = OR_i \times \{[100\% / (100\% - LTV)] - 1\}$ , where  $OR_i$  means the self-financing share (in euro) of the household under review ( $i$ ) and LTV the size (in %) of the maximum loan-to-value ratio. The formula shows that a rise in the collateral values of housing units and, by extension, higher self-financing shares increase in a linear fashion the maximum size of a loan based on the maximum loan-to-value ratio.

3. In reality, the Korhonens will not automatically be granted a loan as large as this if banks, for example, deem the loan too big relative to the loan-servicing capacity of the Korhonens.



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## Higher house prices boost the borrowing capacity of households that own their home

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	Initial situation	House prices rise by 5%
Self-financing share, EUR	20,000	30,000
Maximum size of housing loan, EUR	180,000	270,000
Maximum price of home to be purchased, EUR	200,000	300,000

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Source: Bank of Finland.

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In the example, the 5% rise in housing prices ‘leverages’ the Korhonen’s borrowing capacity by as much as 50%, from EUR 180,000 to EUR 270,000. The example shows how the rise in housing prices and, simultaneously, collateral values may lead to the taking out of still bigger housing loans. Growth in loan size, in turn, feeds the demand for housing, which further raises house prices and collateral values, thereby encouraging even faster borrowing. Admittedly, the maximum loan-to-value ratio could be lowered to, for example, 85% in order to rein in borrowing by the Korhonen and other households. On the other hand, such tightening could increasingly spur circumvention of the restriction and lead to supplementing housing loans with consumer credit.

## Application of income-linked loan cap hinders a dangerous spiral

Many countries restrict the maximum size of new housing loans relative to household income. Regulation can, for example, limit the maximum size of 1) a housing loan to be taken out or 2) a household’s total loans relative to its annual (regular) disposable income (loan-to-income [LTI] cap and debt-to-income [DTI] cap).

We assume that in Finland, in addition to the maximum loan-to-value ratio currently in place, there would be a loan-to-income (LTI) cap of 500% for the ratio of a housing loan to disposable annual income. We further assume that the Korhonen family’s disposable annual income is EUR 40,000.

The loan-to-income cap would restrict the maximum size of the Korhonen family’s housing loan to EUR 200,000.<sup>[4]</sup> Accordingly, the loan-to-income cap would not initially have any impact on the Korhonen’s house purchase, as the 90% maximum loan-to-value ratio would already otherwise restrict the maximum size of their loan to EUR 180,000.

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4. The maximum size of a housing loan according to the loan-to-income (LTI) cap for a household  $i$ ,  $L_{LTI}^i$ , is obtained from the formula  $L_{LTI}^i = (LTI/100\%) \times I_i$ , where LTI means the maximum ratio (in %) of a housing loan to disposable annual household income and  $I_i$  the annual disposable income of the household  $i$ .

(According to economic terminology, the maximum loan-to-value ratio would initially impose a 'binding constraint' on the Korhonens.)

By contrast, the application of provisions concerning the loan-to-income cap would dampen the mutually reinforcing dynamics of house prices and borrowing more effectively than the maximum loan-to-value ratio (Table 3). In accordance with the above example, we assume that the value of the Korhonens' home would grow to EUR 210,000 and that, inspired by this, the family would embark on the purchase of a new home. The rise in house prices has no effect on the loan-to-income cap, on the basis of which the Korhonens could still not borrow more than EUR 200,000. This would make it possible for them to purchase a home of EUR 230,000 at most (a housing loan plus EUR 30,000 in self-financing share).

Table 3.

### Use of the loan-to-income (LTI) cap curbs the mutually reinforcing spiral of house prices and lending for house purchase

	LTV 90%	LTI 500%
Maximum size of housing loan, at initial stage, EUR	180,000	200,000
Maximum price of home to be purchased, at initial stage, EUR	<b>200,000</b>	220,000
Maximum size of housing loan, when prices rise by 5%, EUR	270,000	200,000
Maximum price of home to be purchased, when housing prices rise by 5%, EUR	300,000	<b>230,000</b>

Source: Bank of Finland.

Although the loan-to-income cap resembles the maximum loan-to-value ratio, it is better suited, in terms of its structure, for curbing lending in a situation where house prices are already rising rapidly. The loan-to-income cap binds the amount of lending to the development of disposable income, which is typically more stable than the development of house prices.

Application of the loan-to-income cap alone would allow borrowing by those households which have only little in the way of own funds but high income for loan-servicing. However, the loan-to-income cap would not prevent a situation from occurring where a household's housing wealth would fall below its housing debts. Thus, in the presence of

the loan-to-income cap but in the absence of the maximum loan-to-value ratio, households would remain highly exposed to disruptions affecting their own finances or the macro economy and banks would be exposed to relatively large credit risks. Consequently, it would be warranted to simultaneously apply both a loan-to-income cap and a maximum loan-to-value ratio.

## Financial margin requirements and debt service-to-income ratios are income-linked loan caps

In 2010, the FIN-FSA issued to Finnish banks a still valid recommendation for making a financial margin calculation in respect of applicants of new housing loans. According to the recommendation, banks should check customers' financial margin in a situation where the loan interest rate is 6% and the loan is repayable (by regular instalments) in no more than 25 years. The FIN-FSA recommends that banks take such financial margin calculations into account when making loan decisions.

Several countries have set the financial margin requirement as a binding obligation (a binding financial margin requirement is also referred to as the debt service-to-income [DSTI] ratio) and is used as a macroprudential tool. The DSTI ratio also indirectly restricts the maximum size of a new housing loan by aligning it relative to the applicant household's income (Table 4).

We can assume, for example, that the FIN-FSA's financial margin recommendation is actually binding, so that monthly expenditures for the service of a new housing loan (amortisations and interest expenses) would not be allowed to exceed 40% of the household's monthly income in a situation according to the financial margin calculation. Under this constraint, the Korhonen family could take out a housing loan of about EUR 207,000 at most.<sup>[5]</sup>

Table 4.

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5. According to the debt service-to-income ratio,  $DS_i(L_i)/I_i^{kk} \leq DSTI/100\%$ , where  $DS_i$  means the applicant household's (i) monthly 'stressed' housing loan servicing expenditures, which are a growing function of the size of the housing loan. The variable  $I_i^{kk}$  means the household's monthly disposable income, and DSTI the size of the debt service-to-income ratio in % set by the authorities. In our example,  $DSTI = 40\%$  and the Korhonen family's monthly disposable income is  $EUR\ 40,000/12 = EUR\ 3,333$  per month. Consequently, the Korhonen family's monthly stressed housing loan servicing expenditures may not exceed about EUR 1,333 per month. The simplest way of finding out the size of a loan corresponding to these servicing expenditures is, for example, to use loan calculators on banks' websites and to set the loan period in the calculator at 25 years, the loan interest rate at 6% and the repayment method as a fixed annuity loan and to test which loan size produces the monthly repayment amount of EUR 1,333.

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## How will an increase in disposable annual income affect the maximum size of a housing loan according to a binding financial margin requirement?\*

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Disposable annual income, EUR	Maximum size of housing loan, EUR
30,000	155,000
40,000	207,000
50,000	259,000

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\*The assumption in the calculation is for the loan to be an annuity loan, with an interest rate of 6% and a loan period of 25 years.

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Source: Bank of Finland.

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A binding financial margin requirement, like loan-to-income caps, would dampen the mutually reinforcing harmful dynamics of house prices and borrowing, as higher house prices do not increase households' disposable income. In order to prevent a binding financial margin requirement from leading to a detrimental lengthening of housing loan periods, it might be necessary in that connection to also restrict the maximum maturity of housing loans.

## Loan amortisation requirements and maximum maturities rein in debt levels

In some countries, household indebtedness and housing loan size are reined in by maximum loan maturities or amortisation requirements. Amortisation requirements for housing loans influence households' risk resilience in a manner similar to that of the maximum loan-to-value ratio currently in place in Finland.

The maximum loan-to-value ratio ensures that LTV ratios for new housing loans are reasonable relative to the value of housing (and other collateral) at the time of loan approval (the right-hand vertex of the triangle in the chart). Meanwhile, regular and rapid loan repayment reduces loan-to-value ratios for loans during the loan repayment period, thereby boosting the household sector's risk buffers.

The lengthening of average housing loan repayment periods would appear to have previously been strongly linked with the household sector's higher indebtedness (for more information on risks related to housing loans with long maturities, see the article 'Risks in long-term and large housing loans – Sweden's worry is also ours' [LINK]). Restricting the maximum maturity of loans (supplemented with a requirement for regular loan amortisation) would thus provide the authorities with one of the potential means of curbing growth in average housing loan size and related household indebtedness.

In what follows we will examine how longer housing loan maturities may increase the size of new housing loans (Table 5). In accordance with the previous example, the Korhonens are assumed to be ready to use up to EUR 1,333 per month for the monthly servicing of their housing loan. Moreover, they are prepared to take out a loan with the longest maturity legally permitted.

The longer the permitted housing loans are, the bigger is the loan taken out by the Korhonens. If most households are to behave as the Korhonens, the lengthening of loan maturities will increase household debt levels. Conversely, restricting maximum loan maturities will reduce or slow down the accumulation of debt.

Table 5.

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### Longer loan periods increase housing loan size\*

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Maximum housing loan maturity (years)	Size of the Korhonens' housing loan, EUR
20	186,000
25	207,000
30	222,000

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\*Using a loan calculator, we can obtain the size of a housing loan by setting the maximum housing loan maturities in the table as loan periods in the calculator and the (stressed) interest rate on the loan at 6% and by testing which loan size produces the monthly loan-servicing expenditure of EUR 1,333.

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Source: Bank of Finland.

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## We must learn from international experiences

The examples outlined here indicate that housing market risks and vulnerabilities can increase in different ways and that several diverse tools may be needed to prevent such risks. The phenomenon is not limited to Finland alone, but has been recognised in several other countries, too. Some of these countries have already introduced a number of constraints on lending for house purchase. It is worthwhile to closely assess experiences elsewhere when considering additions to the toolkit in Finland.

Several countries have first addressed the development of residential mortgage loan markets by recommendations or other guidance, but it has later been deemed better to replace recommendations with binding measures. A recent example of this is Slovakia, where a recommendation for broad-based curbing of lending for house purchase was issued in 2014. This recommendation was supplemented at the beginning of 2017 and transformed into a binding restriction based in law. The procedure was similar in Finland, where the maximum loan-to-value ratio was first preceded by a corresponding

recommendation. By contrast, Finland still has in place the recommendation issued by the FIN-FSA for a financial margin calculation.

Despite more widespread use of binding instruments, it is worthy of note that banks have typically been allowed to deviate from the restrictions in certain areas of their lending for house purchase. Such deviations provide banks with flexibility in their business, while the tool enables prevention of excesses in overall lending.

One pioneer country in the application and analysis of instruments warding off risks on residential mortgage loan markets is Ireland, which introduced both a maximum loan-to-value ratio and a loan-to-income cap in 2015. The effectiveness of these instruments was reviewed in an assessment published in late 2016. The review led to changes in some of the criteria of the tools, but the general estimate was that the tools are appropriate and effective for the purpose of reducing the likelihood and implications of future crises. In addition to Ireland and other countries, the Netherlands, Lithuania, Estonia and several Central European countries have currently in place both a maximum loan-to-value ratio and a loan-to-income cap.

## Tags

- [households](#)
- [housing loans](#)
- [indebtedness](#)
- [macroprudential instruments](#)

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# EU macroprudential policy lays emphasis on residential mortgage loans and the banking sector's structural risks

29 MAY 2017 3:00 PM • BANK OF FINLAND BULLETIN 2/2017 • FINANCIAL STABILITY •  
TUULIA ASPLUND

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The European Union has for about two years witnessed the conduct of macroprudential policy mainly based on EU legislation and calibrated for national circumstances. In most cases, the measures have been of a tightening nature and aimed at addressing the banking sector's structural risks and lending for house purchase. Regulatory reforms and macroprudential measures have improved the risk resilience of the bank-centred EU financial system. Work on also targeting macroprudential policy at stability risks building up beyond the banking system is at an initial stage.



The global financial crisis and the European sovereign debt crisis revealed the need to revise the regulation and improve the supervision of financial markets. Broad-based reforms resulted in the creation of institutions to maintain financial stability and the introduction of a new economic policy segment, macroprudential policy. Macroprudential policy refers to active measures taken by the authorities with a view to preventing and mitigating systemic risks threatening the financial system.

Within the European Union, macroprudential policy is based on the Capital Requirements Directive and Regulation of the same name, which entered into force in 2014, on the Member States' national legislation and the recommendations issued by the [European Systemic Risk Board \(ESRB\)](#). Most EU countries have now completed the

institutional arrangements for macroprudential policy, designated their respective macroprudential authorities and created a decision-making process and a macroprudential toolkit. The establishment of Banking Union led to the [European Central Bank](#) being assigned the role of macroprudential authority with powers to assess and, where necessary, apply more stringent macroprudential measures than those adopted by national authorities.<sup>[1]</sup>

The decision-making process and implementation of macroprudential policy comprise a series of different stages. Risks and vulnerabilities threatening the stability of the financial system need to be identified and addressed, as far as possible, by specifically targeted macroprudential measures. The impact and effectiveness of the measures and their potential side effects are analysed on a regular basis. The toolkit of macroprudential authorities includes both binding 'hard' macroprudential instruments based on legislation and 'soft' tools, such as warnings and recommendations.

Active macroprudential policy based on EU regulation has now been conducted for about two years.<sup>[2]</sup> Macroprudential policy implemented at national level within the EU has so far targeted mainly banks and related systemic risks. This is due to the bank-centred nature of the European financial system and legislation concerning macroprudential policy.

## So far, little use has been made of cyclical tools

The EU macroprudential framework and toolkit were replenished in 2016, when the remaining Member States put in place the arrangements for a countercyclical capital buffer requirement. This is a tool aimed at addressing cyclical systemic risks and guiding credit institutions in the strengthening of their risk resilience in times of rapid credit growth. This is done by setting higher capital requirements.

Correspondingly, in a downturn, by releasing such capital buffers, credit institutions can be encouraged to maintain lending, which is supportive of economic growth. Within the EU, this additional capital requirement<sup>[3]</sup> of 2.5% at most of risk-weighted assets had been set at a level other than zero in only four countries by the end of 2016.<sup>[4]</sup>

Experiences gained to date from the application of the countercyclical capital buffer requirement indicate that the primary risk indicator defined for assessment of the need to activate the tool appears to guide decisions less than expected.<sup>[5]</sup> An EU-wide review found no clear connection between the value of the primary risk indicator, i.e. the private

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1. The ECB is empowered to tighten nationally implemented macroprudential measures that are based on EU legislation.

2. The European Systemic Risk Board has published reviews of macroprudential policy in the EU in [2014](#), [2015](#) and [2016](#). The author drew on the reviews as sources for this article.

3. The countercyclical capital buffer requirement is calculated relative to the risk-weighted amount of credit exposures to the country concerned.

4. The countries were the United Kingdom, Sweden, Slovakia and the Czech Republic, along with the non-EU country Norway. In the United Kingdom, however, the countercyclical capital buffer requirement was decreased back to 0% only a few months after the decision to increase it, in response to the potential implications for financial stability of the outcome of the country's referendum on EU membership.



sector credit-to-GDP gap, and the size of the determined countercyclical capital buffer requirement. The limited use seen so far of the countercyclical capital buffer requirement reflects most EU countries' subdued credit cycle and economic growth in recent years.

## Measures addressing structural risks are common

The risk resilience of the bank-centred EU financial system was further strengthened in 2016, with the remaining Member States also completing the designation of their domestic systemically important credit institutions. The number of such systemically important institutions designated in the EU and Norway totalled 202 by the end of 2016.<sup>[6]</sup> An additional capital buffer requirement of at most 2% of total risk exposures for systemically important credit institutions, to be met either on a gradual basis or at one time, has been imposed on most of these institutions.<sup>[7]</sup>

The dispersion between the levels of additional capital buffer requirements imposed on systemically important institutions is fairly large across the EU. Part of this dispersion is accounted for by the fact that the majority of EU countries are enforcing these capital buffers gradually, by 2022 at the latest. Especially those countries in which the condition of the banking sector has been difficult in the aftermath of the financial and debt crises have made use of the opportunity offered by the legislation for a long phase-in period. The dispersion is also, in part, based on differences in the way the authorities define the degree of systemic importance for credit institutions.

On top of additional capital buffer requirements for systemically important institutions, one of the most frequently employed macroprudential tools among EU Member States is the systemic risk buffer aimed at addressing structural risks within the financial system.<sup>[8]</sup> This systemic risk buffer, normally not exceeding 5% of defined risk-weighted assets, enables mitigation of risks caused by the vulnerability of the financial system's structure to the stability of the system and the economy.<sup>[9]</sup> Compared with many other tools, the systemic risk buffer is considered flexible. For this reason, in part, the practices as to where and how the buffer is deployed and the rationale for its use differ greatly across countries. EU countries also apply the systemic risk buffer to, for example, complement and compensate for other macroprudential tools.<sup>[10]</sup>

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5. As a basis for decision-making, authorities most often also use other indicators, such as those illustrating the development of the macro economy and the credit cycle. In Finland, the relevant Ministry of Finance Decree defines the supplementary factors to be employed in decision-making.

6. A total of 14 of these institutions are also designated as global systemically important banks and are subject to an additional capital buffer of 1–3.5%.

7. The United Kingdom has imposed a capital buffer intended for systemically important institutions only on banks that are globally systemically important banks.

8. Existing legislation enables application of the systemic risk buffer in all EU countries other than Italy, Finland and the United Kingdom. Of these, at least the two latter countries are making preparations for incorporation of the systemic risk buffer into legislation.

9. Of capital buffers for domestic or global systemically important institutions and the systemic risk buffer, the highest buffer requirement is basically binding.

10. For example, the Czech Republic and Denmark employ the systemic risk buffer for mitigating risks and vulnerabilities caused by systemically important banks.

## Toolkit applicable to lending for house purchase has broadened

Apart from additional capital requirements based on EU legislation, national authorities have also made active use of various macroprudential instruments applicable to lending for house purchase and the housing markets. Macroprudential policy addressing lending for house purchase reflects structural and operational differences that have evolved over a long period of time on national housing and residential mortgage loan markets. The scope of macroprudential instruments targeting residential mortgages or the operation of housing markets varies by country, as most of these tools are based on national legislation.

About two thirds of EU countries have to date adopted a maximum loan-to-value ratio of some sort restricting the relationship between a residential mortgage and the collateral provided. Meanwhile, in about half the Member States authorities have set limits for the loan amount or debt-servicing costs relative to the borrower's income. Likewise, about half the EU countries have reinforced credit institutions' resilience to risks stemming from housing or residential mortgage loan markets by, for example, increasing risk weights for residential mortgages or through other targeted measures.

An analysis by region shows that macroprudential tools addressing lending for house purchase are most frequently used in the Nordic and smaller Central European countries. Southern European and large Central European countries, meanwhile, have barely taken any macroprudential measures aimed at lending for house purchase.

Residential real estate lending also took centre stage in the EU's single macroprudential policy in 2016, as the European Systemic Risk Board warned eight EU Member States regarding medium-term housing market vulnerabilities and potential systemic risks. These first warnings published by the ESRB were related to household debt and also to the high level of, or rapid increases in, housing prices in respect of most countries.<sup>[11]</sup> All the countries that received the warning had applied at least one of the above macroprudential instruments addressing lending for house purchase, but the ESRB deemed the measures possibly inadequate.

## Macroprudential policy must be ready to respond rapidly to changes

Regulatory reforms following the financial crisis and active macroprudential policy pursued for about two years have strengthened the European financial system and improved banks' loss absorbing capacity, in particular. National authorities of most EU countries already have in place established processes and tools for the practical implementation of macroprudential policy applicable to the banking system, based on EU legislation and calibrated for national circumstances.

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11. The warning was issued to Belgium, the United Kingdom, Austria, Luxembourg, Sweden, Denmark, the Netherlands and Finland, in respect of which – except for the two last-mentioned countries – particular attention was drawn to the level of, or rise in, house prices.

The European authorities for macroprudential oversight, the ECB and ESRB, have also established their position in macroprudential policy. Looking ahead, the need for cross-border cooperation between the authorities will be highlighted in order to ensure policy effectiveness amid deepening financial integration. On the basis of experiences gained from implementation of the policy, the European Commission is currently assessing<sup>[12]</sup> the type of development or reform needs there may be in macroprudential regulation, tools and decision-making processes.

Work on analysing and preventing systemic risks and vulnerabilities beyond the banking sector is at an initial stage. The financial sector is in a process of ongoing change, and macroprudential policy should seek to also mitigate the implications of stability risks building up outside of the traditional banking sector. The responsive capacity of European macroprudential policy and the consistency of regulation and supervision may also be put to the test in the near term by, for example, financial system changes resulting from the departure of the United Kingdom from the EU. With macroprudential policy consolidating its role as an economic policy segment, it is important for the policy to retain its capacity to rapidly respond to a changing operating environment.

## Tags

- [EU](#)
- [financial stability](#)
- [macroprudential policy](#)
- [macroprudential tools](#)

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12. See. [the European Commission's autumn 2016 consultation document 'Review of the EU Macro-prudential framework'](#)

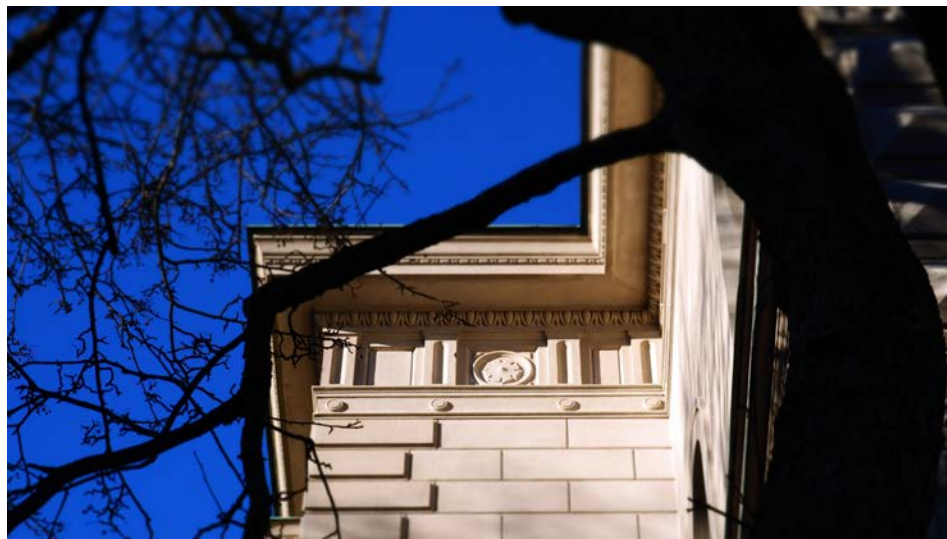
# Most significant international threats to stability relate to securities markets

29 MAY 2017 3:00 PM • BANK OF FINLAND BULLETIN 2/2017 • FINANCIAL STABILITY •

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Investors' optimism on the financial markets can rapidly turn to risk aversion if global economic or political uncertainty increases. Longer-term risks related to indebtedness and the housing markets are considerable, especially in emerging economies, although the Nordic countries, for example, are also vulnerable. The condition of the banking sector and public finances gives cause for concern particularly in some euro area countries. In addition, uncertainties regarding financial regulation have increased in the United States.



The international financial markets functioned without major disruptions in the first quarter of 2017. Improvement in the growth outlook for the global economy and expectations of an expansionary economic policy in the United States maintained investors' risk appetite. Investors' optimism was visible especially on the stock markets, where the level of volatility (indicating uncertainty) decreased to an exceptionally low level and prices increased, especially in the United States. The increased risk-taking also manifested itself on the corporate bond markets, where the already low risk premia between low-risk and high-risk bonds declined further.

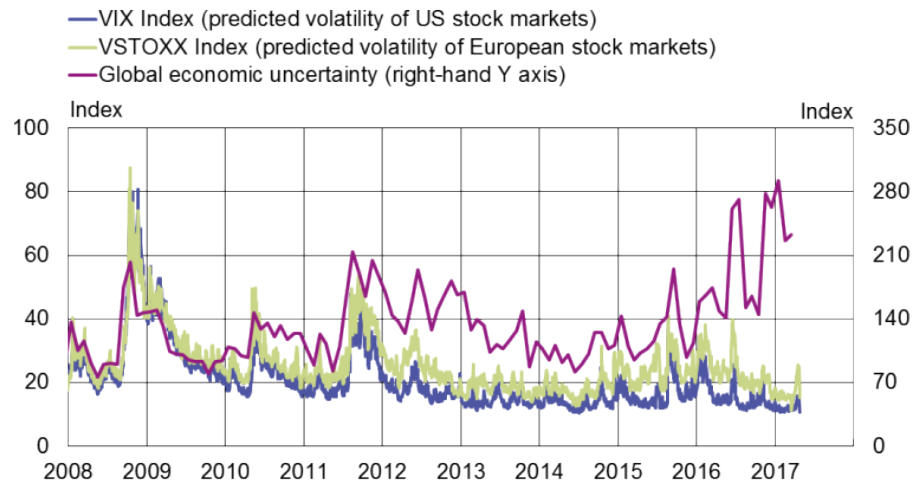
At the start of the second quarter of the year, investors' appetite for risk has been affected by an increase in geopolitical uncertainty due, for instance, to the situation regarding

Syria and North Korea. On the stock markets, expected volatility has increased both in the United States and in Europe. At the same time, demand for safer investment products, such as long-term government bonds, has increased. In the euro area, adding to the uncertainty has also been the French presidential election in April and May, which has increased volatility on the government bond markets as well as the equity and foreign exchange markets.

The Bank of Finland's [recent international forecast](#) suggests the economic growth prospects of the United States, Europe and Japan have improved slightly, but the slowdown in Chinese growth is restraining global growth. The global economy is predicted to continue growing over the next three years at a rate of more than 3%, but the forecast contains downside risks. These risks relate to increased restrictions on international trade, a quicker-than-predicted slowdown in China's debt-led growth and, in certain countries in Europe, the weak condition of the banking sector and the outlook for the public finances. From the point of view of financial stability, there is a risk<sup>[1]</sup> that investors' risk appetite could be considerably weakened if the expectations around US economic policy are not met, the likelihood of downside risks in the real economy actualising increases or geopolitical tensions continue to mount.

Chart 1.

### Uncertainty on the equity markets has increased after a calm start to 2017



Sources: CBOE, Bloomberg and Baker, Bloom and Davis (2016).  
 25 April 2017  
 bofbulletin.fi

1. Systemic risk means a risk of disruption in the financial system that may have a considerable negative effect on the real economy and prosperity. A financial crisis often emerges as a combination or chain of several vulnerabilities and many triggering factors. Vulnerabilities typically cumulate over a long period of time without the risk materialising. The shock caused by the materialisation of risks and, therefore, the timing of the materialisation of risks is usually very difficult to anticipate. If the vulnerabilities are large enough, even a small shock can trigger a crisis. This article reviews the vulnerabilities in the international financial system and the risks engendered by them. The risks presented are not forecasts; they represent unlikely but possible courses of events that might endanger the stability of the international, and therefore the Finnish, financial system.

## European banks' profitability challenges unchanged

Investors' confidence in European banks has increased in the last six months. A steeper yield curve and an improved economic outlook have raised profitability prospects which, in turn, has increased equity prices in the financial sector globally. There has also been a similar effect from the plans to deregulate the financial sector, especially in the United States. In addition to the increase in equity prices, the CDS (Credit Default Swap) spreads reflecting European banks' credit risk have decreased. Also, the price of market-based funding has stayed low and its availability is good for the majority of banks. In the last year, the various periods of heightened uncertainty on the financial markets have been reflected only in the yields on European banks' riskiest (subordinated) bonds.

Chart 2.

### Recovery of European banking shares has decreased stress level in euro area financial system



Sources: Bloomberg and ECB.

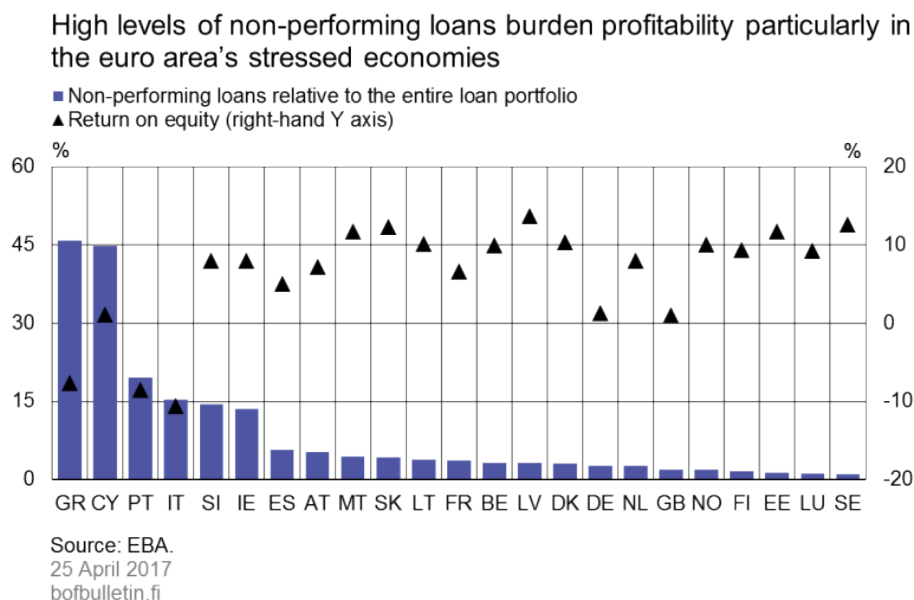
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Although investors' confidence has increased, the long-term profitability of banks still entails substantial challenges. According to the European Banking Authority, the return on investment (ROE) for large banks' equity was in the fourth quarter of 2016 on average 3.3%, as opposed to 4.5% in the corresponding period the previous year. Approximately 15% of Europe's large banks in the fourth quarter of 2016 made a negative (or zero) result. Banks' prospects still involve uncertainties, as, according to the EBA's most recent risk survey, fewer than 20% of responding banks expect their profitability to improve in the next 6–12 months (EBA, 2017). Underlying the weak profitability developments have been particularly weak growth in net interest income and fee and commission income as well as various structural problems.

In several euro area countries affected by the debt crisis, banks' profitability is still weakened by large amounts of non-performing loans on their balance sheets as a legacy of the crisis, which hinders their ability to act as financial intermediaries. According to the Single Supervisory Mechanism for European banking (SSM), the large banks in the

euro area have on their balance sheets non-performing loans to a value of EUR 880 billion, which is approximately 8.2% less than a year ago. The amounts of problem loans show large variations between banks and countries. The most significant problems are concentrated in Italian, Portuguese, Greek and Cypriot banks. In Germany, shipping-related non-performing loans afflict particularly banks specialising in corporate finance.

Chart 3.



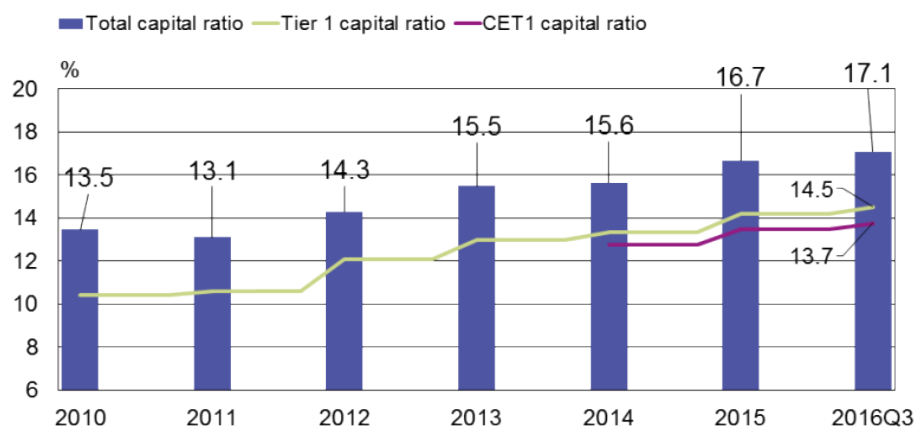
The European banking sector is large compared with the size of the economy, and some of the big countries have many bank branches. In the banking sector, there still exists overcapacity and inefficiency. Also, increased competition for declining revenue weakens banks' profitability. According to the EBA's latest risk survey, approximately 40% of responding banks have sought to alleviate their profitability problem by initiating various cost-cutting and efficiency programmes. Nevertheless, banks' cost/income ratio, which measures inefficiency, remains high in several countries.

Regardless of the profitability challenges, banks' capital adequacy has steadily improved. According to the EBA, European banks' average Tier 1 capital ratio was 15.5% in the fourth quarter of 2016, and it has almost doubled since the financial crisis. Banks' capital adequacy has improved both through increased capital and decreased risk-weighted assets. In addition to improving capital adequacy, banks' financial structure is now more solid than before the financial crisis. Deposits represent a larger share of banks' funding, and market-based funding has a longer maturity. Banks relying heavily on market-based funding – such as various specialised credit banks, investment banks and several Nordic banks – can, however, be susceptible to strong disruptions in market-based funding. A rapid and large increase in risk premia might have a negative effect on banks' ability to raise capital on the international finance markets and increase the price of capital at the same time as it would weaken the valuations of bonds held by banks and bring down income from fees and commissions. For instance, in the Nordic countries attempts have been made to lower banks' refinancing risks by, among other things, increasing the size of the liquidity buffer requirement.



Chart 4.

### Improving capital base enhances banks' risk-bearing ability in the euro area



Source: ECB.  
25 April 2017  
bofbulletin.fi

## Rising interest rates may cause losses for investors who emphasise safety

The sustained period of slow economic growth and low inflation in the major economic regions has depressed the general rates of interest.<sup>[2]</sup> In order to gain any interest income, investors have had to accept a higher risk on the bond markets, and increased demand has decreased the credit and interest rate risk premia between low-risk and high-risk bonds. This has, in turn, encouraged companies and governments to issue bonds with longer maturities. For example, in 2016 in the euro area there were bonds exceeding EUR 1 billion issued with considerably longer than normal maturities, such as Austria's 70-year and Italy's, Spain's, Belgium's and France's 50-year government bonds.

Bonds with longer maturities are a good thing for the stability of the financial system, as they decrease the risk that comes with refinancing loans while interest rates are rising. At the same time, however, they increase investors' interest rate risk. Due to the non-linear dependency between the price and the interest rate of a bond, the bond's value is more susceptible to interest rate changes when interest rates are low. As a result, even relatively minor changes in the rate of interest may cause large changes in values, particularly in long-maturity bonds. Rising interest rates can, therefore, cause valuation losses, particularly in portfolios weighted towards long-term government bonds, such as are typical of banks, insurance companies and pension insurers.<sup>[3]</sup>

2. Domanski et al. (2017) note that the very compressed interest rates on safe long-term government bonds might also be the result of long-term investors' (such as pension funds and life insurance companies) short-term risk management measures. As long-term interest rates decline, the maturity of liabilities on insurance companies' balance sheets increases faster than the maturity of assets. In order to compensate for the consequent maturity gap, insurance companies must add longer-term bonds to their portfolios. When interest rates come down, demand for long-term government bonds increases and the insurer's demand curve slopes upward: higher price increases demand. This can lead to a negative spiral and a further decline in interest rates.



Valuation losses are not, however, determined directly by the amount of bonds held; their scale is affected by when the bonds were acquired, how they are valued on the balance sheet and how interest rate risk has been hedged against, for example by using derivatives. In addition, rising interest rates also have positive effects, for instance on banks' and insurers' profit-making ability and on return from future investments, a factor that compensates for the possible valuation losses on fixed-income investments.

Expectations of a rise in interest rates may also affect stock market valuation levels more broadly. An increase in the interest rates on government bonds can increase the yield on the riskiest corporate bonds as they are generally priced at a premium on top of the government bond yield. The relative popularity of equities and other riskier securities, or market areas, as investments can also suffer when returns on lower risk investments rise. The danger is that changing expectations of forthcoming interest rates can lead to widespread changes in investors' portfolio allocations and, through this, increased uncertainty on the financial markets. To date, the rapid rise of the interest rates on long-term government bonds, for example in the United States, has not, however, led to this. This might be explained, among other things, by the fact that the use of government bonds as collateral for various market operations, and restrictions imposed by regulation on some finance operators' investments, sustain their demand even in changing market conditions. As interest rates rise, the demand for the riskier end of securities, such as equities and corporate bonds, is bolstered by the lowering credit risks that come with improving economic growth.

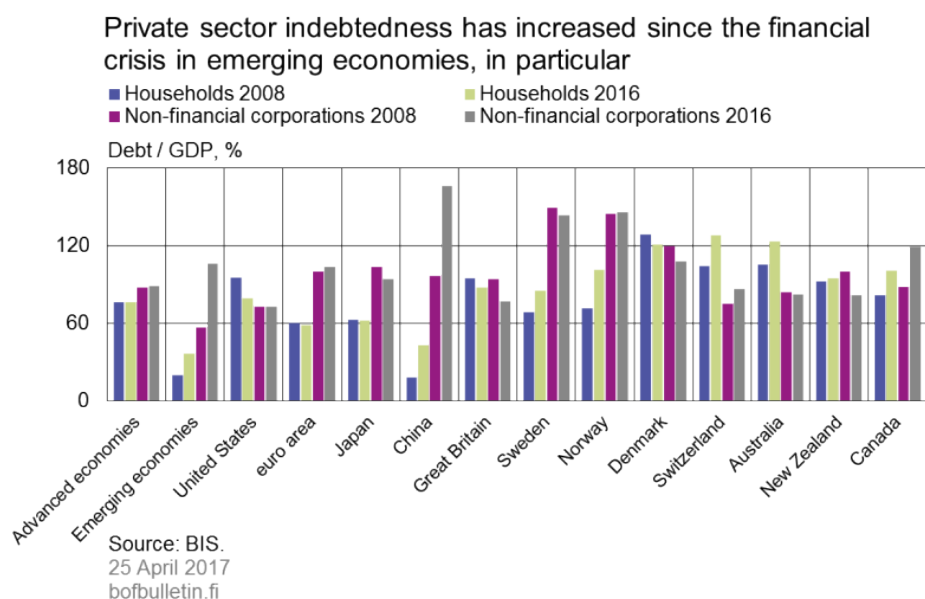
## **Vulnerabilities related to debt and property markets are in some places considerable**

Private sector indebtedness and property market overheating are, from the point of view of financial stability, the most dangerous long-term vulnerabilities (Tölö et al., 2017). The considerable tightening of financial sector regulation following the financial crisis and the high level of debt in both private and public sectors inherited from the financial crises have restrained debt levels in several developed economies. At the same time, however, vulnerabilities have grown in countries that avoided the financial crisis. The increase in private sector indebtedness after the financial crisis has been rapid particularly in emerging economies, in which corporate debt relative to GDP on an aggregate level has risen above the level of the developed economies. The rate of increase in indebtedness has been particularly fast in China, where the level of debt is also exceptionally high, especially in the corporate sector.

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3. Banks', insurers' and pension funds' ability to bear risk is regularly tested with stress tests.

Chart 5.



Tightening of monetary policy in the United States can tighten financial conditions also outside the United States, as debtors outside the United States hold dollar-denominated debt totalling USD 10.5 billion. Approximately a third of this is held by debtors in emerging economies. The proportion of dollar-denominated debt is high especially in emerging economies' bond debt. According to BIS's estimate, on average 33% of government bonds and 57% of corporate bonds are dollar-denominated, but of all corporate debt the dollar share is high in only a few countries.

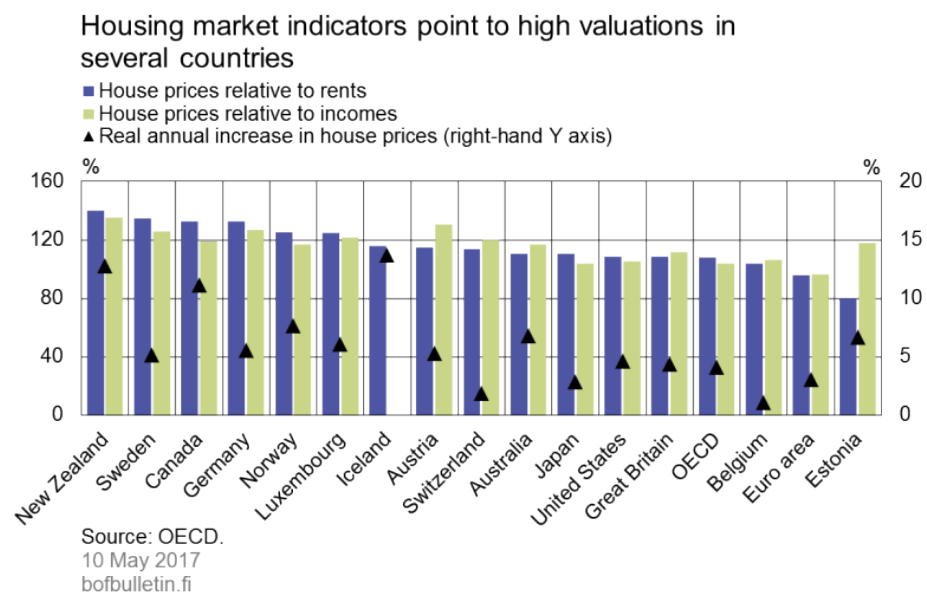
It is challenging to analyse the risks caused by dollar debt due, among other factors, to the incompleteness of the statistics.<sup>[4]</sup> Furthermore, the amount of dollar-denominated debt does not in itself show the level of risk, as it is affected by the level of overall debt and other vulnerabilities as well as hedges taken against the risks of dollar-denominated debt on which there is no statistical information. The danger is, however, that as the dollar strengthens and dollar interest rates rise, the costs of servicing USD debt increase and its availability weakens, in which case the risks related to refinancing debt will grow.

The strengthening of the dollar and the rise of dollar interest rates also escalates the costs of banks' own dollar funding and can weaken banks' ability to offer dollar-denominated financing and currency hedging products to investors, debtors and each other (Avdjiev et al., 2016). Since the maturity of currency hedging products is for cost reasons generally shorter than the maturity of the underlying object, a rise of currency hedging costs will have an immediate effect on debtors' debt servicing costs even though the debts in themselves are long-term. The increase in the cost of currency hedging can also weaken dollar-denominated investments' attractiveness from the investors' point of view and thereby reduce the supply of dollar-denominated finance.

4. The BIS has long endeavoured to consistently analyse the significance of the US dollar and the vulnerabilities it creates in the international financial system. See, for example, Chui et al., (2014); McCauley et al., (2015); Borio et al., (2016); Shin (2016).

The high level of indebtedness in the private sector creates a vulnerability in financial stability also in many developed economies, such as the Nordic countries. The Nordic banking system is very centralised, interlinked and highly dependent on international funding. The Nordic countries' highly solvent banks and states are among the safest investments, but the notion of a stable system may change if vulnerabilities continue to grow. In several countries with a high level of debt, there are also signs of overvaluation on the property markets, which is measured, for example, by comparing house prices to rents or household incomes. The European Systemic Risk Board (ESRB) issued a warning last autumn<sup>[5]</sup> on vulnerabilities related to property markets and household debt to eight EU countries (Austria, Belgium, the Netherlands, Luxembourg, Denmark, Finland, Sweden and the United Kingdom).

Chart 6.



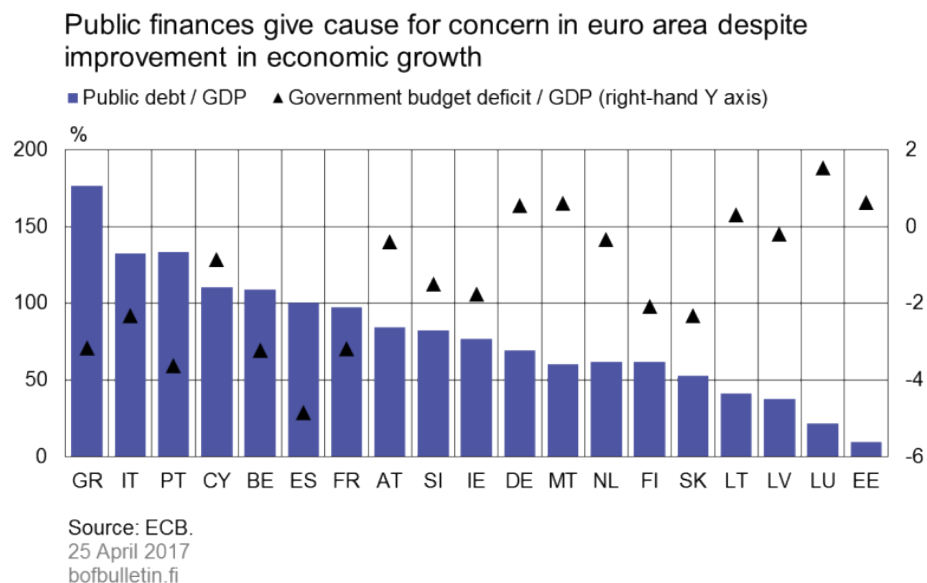
A high level of vulnerabilities does not necessarily always lead to a financial crisis, this being influenced also by the magnitude of the shock, i.e. the rate at which vulnerabilities unravel, and the financial system's risk-bearing capacity. In most advanced economies, in which debt-related and property market-related vulnerabilities are elevated, the banking sector is highly solvent and government finances are in good order. Additionally, the vulnerabilities related to debt have been identified and steps have been taken to restrain them via macroprudential policy.

In the euro area, the condition of the public finances causes concern regardless of the improvement in the real economy. Public debt is declining only slowly in the euro area. Of the big countries in the area, only Germany's public sector debt is expected to come down substantially, whereas in France, Italy and Spain public debt in proportion to GDP will stay roughly unaltered. The situation is the most challenging in those countries that suffered during the debt crisis and in which economic growth remains weak and

5. 'Warnings on medium-term vulnerabilities in the residential real estate sector', ESRB, September 2016. The cause of the warning given to Finland was high household debt rather than overheating of property prices.

vulnerabilities in the banking sector are large. European bond markets are also overshadowed by the political uncertainty caused by Britain's exit from the European Union and a busy election year.<sup>[6]</sup>

Chart 7.



## Deregulating financial sector would increase long-term risks

In the United States, some representatives of the administration and the Republican Party have stated, amongst other things, that the ability of United States' banks to offer loans is hampered by over-regulation and have criticised the Dodd-Frank legislation that governs the United States' banking system. February's Presidential Executive Order<sup>[7]</sup> emphasises, among other things, the need to avoid bailing out financial institutions with taxpayers' money and the need to look after US interests in negotiations on regulation of the international financial system.

It is still too early to estimate how regulation in the United States will change and what effects any changes may have in the long term. Easing of regulation or de-regulation will not in itself lead to a financial crisis but can lead to a weakening of banks' and other financial institutions' capacity to bear risk and an increase in vulnerabilities through increased risk-taking. The regulatory uncertainty in the United States could also have an effect on, for example, the Basel Committee on Banking Supervision negotiations to finalise the international Basel III recommendations on banks' solvency regulations.

6. Laakkonen et al. (2014) note that in addition to the economic situation in a country, its credit rating is also affected by the functionality of the administration and its decision-making ability. The study measured decision-making ability by an index measuring the rate of concentration of ministerial posts in the government and found that the wider the party base of a government, the more negative the effect on the credit rating.

7. 'Presidential Executive Order on Core Principles for Regulating the United States Financial System', White House, 3 February 2017.

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## Tags

- banks
- financial markets
- financial stability
- systemic risks
- macroprudential policy

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# Capital Markets Union supports economic growth and employment

10 MAY 2017 11:00 AM • BANK OF FINLAND BULLETIN 2/2017 • FINANCIAL STABILITY •

OTSO MANNINEN

- Otso Manninen  
Economist

A broader funding base especially for growth-oriented small and medium-sized enterprises would boost economic growth and employment. Cross-border capital flows would promote private risk sharing in Europe. To support these objectives, the European Commission has designed and partly implemented a Capital Markets Union. So far, the project to build a single market for capital has advanced at a relatively good pace, but now there are some difficult issues ahead, such as harmonisation of taxation and insolvency law. Although the toughest challenges still loom ahead, this should not be allowed to prevent completion of the initiative.



## Capital Markets Union necessary to finance growth companies

The role of capital markets in financial intermediation is much less significant in Europe than, for example, in the United States.<sup>[1]</sup> In Europe, banks are the prime source of finance, but a broader funding base that extends beyond the banks would, in the opinion of the Commission, be more sustainable in terms of the resilience of funding in times of

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1. For further discussion of the size of the European banking sector, see e.g. the [report](#) of the European Systemic Risk Board (ESRB).



crisis.<sup>[2]</sup> Together, banks and capital market participants could offer sufficient funding in a manner best suited to withstanding fluctuations in the economy.

Currently, economic growth and a majority of new jobs are generated by small and medium-sized growth companies. Their access to funding is, therefore, essential for ensuring continuation of favourable economic developments. Many growth companies today operate in the service sector without any major equity holdings or real assets. Lacking collateral, a significant turnover, or a traditional business model, they have rather slim chances of obtaining a loan from banks and should, consequently, have the possibility to raise funding on the capital markets. Unfortunately, many European capital markets are thin, which leaves them unable to offer funding in any substantial amount. Moreover, the banks in some EU countries may be struggling and therefore have limited capacity to support the real economy.

The funding situation of small and medium-sized enterprises (SMEs) is not as constrained in Finland as in some other EU countries. The credit for this goes to public entities such as Finpro, Finnvera, Tekes and Tesi (Finnish Industry Investment Ltd) and the solid banking sector. Even so, access to early corporate funding in particular may also be challenging in Finland, for the reasons cited above. At present, private angel investors or venture capitalists are not in a position to finance all promising ventures.

Resolving these two problems, access to capital and continuity of funding, calls for vibrant and well-functioning capital markets. Capital Markets Union (CMU) is a joint initiative of the European Commission and EU Member States designed to broaden the sources of market-based funding and increase the supply of bank credit especially for SMEs and infrastructure projects. With this initiative, national and EU authorities are creating a regulatory framework within which private entities can implement the Capital Markets Union. The ambitious goal is to complete the framework by 2019.<sup>[3]</sup>

The Capital Markets Union Action Plan contains 33 initiatives, ranging from reports and consultations to legislative changes. The topics include development of cross-border retail financial services and harmonisation of insolvency law, the corporate tax base and withholding tax procedures. The diversity of the measures covered makes it difficult to condense the initiative into a statement that is both easily understood and comprehensive.

## Capital markets supplement bank finance

In the aftermath of the financial crisis, the operation of banks and the markets became the subject of closer attention. It was understood that only a financially solid banking sector can deliver sustainable financial intermediation. The requirement to capture the risks of the banking sector as a whole was, on a tight schedule, introduced into banking

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2. For further elaboration on this, see the European Commission's paper with an [economic analysis](#) of the Capital Markets Union.

3. Capital Markets Union is not an isolated initiative, but complements e.g. Banking Union and the digital single market. Furthermore, the Capital Markets Union will of course constantly evolve, but even so the aim is to have the basic framework largely in place by 2019.



regulations, especially prudential regulations. This would prevent spillover of the problems of a single bank to the broader banking sector.

The purpose of the new regulations was to ensure that banks would not run into problems so easily and – were this to happen – that public funds would not, in the future, have to be used to rescue them. In response to the regulations, the banks have, however, cut back on their riskiest operations. Meanwhile, the European capital markets have not developed sufficiently to make up for this reduction in banks' operations. This has brought about a shortage of finance especially for growth companies, as the banks and capital markets have been unable to support them sufficiently.

Indeed, one aim of Capital Markets Union is to increase the share of market-based finance and broaden the range of funding sources. One of the major tasks is to ensure that there are sufficient regulations in place for these funding sources and that due provision is made for the risks inherent in the business. However, to be able to offer finance at a reasonable cost, the capital markets must not be too heavily regulated. In the case of capital market funding, similarly as in bank funding, it must be borne in mind that slightly weaker but sustainable growth is always better than somewhat stronger growth followed by considerable downturns at regular intervals.

With the establishment of Capital Markets Union, banks' risk weights for infrastructure investments will also be lowered, as has already been done for SME lending. In principle, the lower risk weights should stimulate bank lending for infrastructure investments and to the SME sector. This reform, however, also means that risk weights will no longer be solely based on calculation of risk, but also on the social importance of the business. This principle will certainly be discussed in the talks on increasing the volume of sustainable finance in the context of Capital Markets Union.

Under Capital Markets Union, the tax treatment of equity relative to that of debt will also become subject to review. Currently, expenses incurred from debt servicing are tax deductible for businesses. This tax deductibility may be used for tax avoidance purposes, but even without this dimension, there is a clear distortion between debt and equity. Capital Markets Union will align the tax treatment of equity with that of debt, thus increasing the amount of equity and reducing corporate debt. Still, it will not be easy to change taxation, however justified the objective.

## **Capital Markets Union treads on the territory of national legislators – with good cause?**

For the EU to be a true Capital Markets Union, the content and interpretation of legislation should be sufficiently uniform across the participating countries. This is partly to be achieved through adjustment of Regulations and enactment of Directives that leave as little scope for national interpretation as possible. However, some harmonisation will also be required in areas traditionally regarded as being within the realm of national law, such as insolvency law and taxation.

One key proposal of Capital Markets Union is to first review and thereafter possibly harmonise the loan enforcement regimes in terms of delays, costs and recovery value

when managing defaulting loans. At its shortest, the delay is some months in certain countries, whereas, at its longest, it can take as long as ten years. It goes without saying that if the differences are significant and the process unclear in some countries, capital flows across the countries will remain limited. Any losses from banks' non-performing loans and, by extension, the market values of these loans, would develop favourably if the longest periods of debt realisation could be shortened.<sup>[4]</sup>

Capital Markets Union also seeks to harmonise the principles of business restructuring applied to companies in temporary financial difficulties whose business is on a solid footing, to allow them to remain in business. Another aim is to ensure that honest entrepreneurs will get a second chance if their former business has failed.

Single EU-wide legislation, including insolvency and taxation law, would serve to boost cross-border investment and financial service provision. This would channel resources more effectively and boost private risk sharing in Europe, with funds flowing from capital surplus areas to capital deficit areas. Private burden sharing would provide a more market-oriented solution than public mutual solidarity.<sup>[5]</sup>

Concurrently with the harmonisation of national legislations and practices, supervision of the capital markets should also be harmonised and improved. The bulk of the EU's capital market operations is located in the United Kingdom, but after Brexit some operations are likely to move under the supervision of various national authorities. Some cross-country differences in legislation and supervisory practices may hold back the process of integration. Harmonisation of capital market supervision is, therefore, an integral element of Capital Markets Union.

Regardless of the many benefits involved, harmonisation of these complex issues traditionally regarded as falling within national competence is expected to be very difficult. For the CMU initiative to move forward it is important that the few roadblocks do not kill off the whole initiative. The Commission itself currently considers that 19 of the 33 initiatives are already in place.<sup>[6]</sup> Let us not be lulled into a false sense of complacency, as Europe needs a Capital Markets Union and there is a long road to go, especially after the Brexit vote. However, the Commission has a clear roadmap. Now the same resolve should also be mobilised at national level by Member States.

## Tags

- [Capital Markets Union \(CMU\)](#)
- [economic growth](#)
- [employment](#)
- [funding](#)

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4. This does not mean that the position of debtors would be unreasonably weakened, if the processes are transparent and known to all and if suitable minimum requirements and consumer protection rules are in place.

5. When a private investor makes cross-border investments, only part of the investor's holdings will be affected by risks in individual countries. Losses are divided among investors in several countries, which reduces the interdependence of the countries and their resident investors. Private risk sharing makes the financial system more resilient overall.

6. See the [speech](#) by Commissioner Dombrovskis on 25 April 2017.

- small and medium-sized enterprises (SMEs)

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# Payments must be smooth under all circumstances

29 MAY 2017 3:00 PM • BANK OF FINLAND BULLETIN 2/2017 • FINANCIAL STABILITY •

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Head of Division

For a financial system to be reliable, payment systems and securities clearing and settlement systems must operate smoothly. This financial system infrastructure has undergone a radical change in recent years. Finland has become increasingly dependent on international systems in the new millennium. It is therefore important to ensure that, for example, payment transfers and card payments also operate when data connections with other countries are down.



Payment and securities clearing and settlement systems are fundamental for the functioning of the economy and the stability of the financial markets. Financial infrastructure is needed, for example, for the transfer of funds between individuals or businesses. Securities trading, in turn, requires systems for transferring securities from seller to buyer and funds from buyer to seller.

As a background function in the economy, financial infrastructure – if operating smoothly – is often unnoticed. Should problems occur, day-to-day life in society would quickly become difficult. Finland's financial infrastructure has operated reliably over the past year.<sup>[1]</sup>

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1. For further information on the systems in use in Finland, see <https://www.suomenpankki.fi/globalassets/en/financial-stability/oversight/infrastructure-critical-to-the-finnish-financial-markets-20170505.pdf>.

The financial infrastructure has, however, changed significantly in recent years. In particular, payment methods and systems used in Finland have undergone a swift internationalisation process over the past 15 years. The first stage involved a changeover of cash currency from the markka to the euro. This was followed by the vanishing of domestic bank cards, with people beginning to use international payment cards and SEPA credit transfers. At the same time, the underlying domestic payment systems were replaced by international ones. Securities post-trading systems have also changed markedly. Finland uses, for example, the services of international central counterparties<sup>[2]</sup> and plans to migrate to the pan-European platform for securities settlement (Target2 Securities, T2S).

Internationalisation and integration of systems increases efficiency. From the perspective of cost efficiency, it may not necessarily be reasonable for a small country such as Finland to maintain all systems by itself. From the viewpoint of continuity and contingency, however, dependence on international data communication networks and systems is problematic. Better preparedness is needed for situations in which we cannot trust the operation of international systems.

Payment transfers between banks and card payments should also operate in times of payment disruptions or crisis. People must receive their pensions as agreed and salaries on payday. They must also be able to use the funds on their bank account for paying, for example, their electricity bills or food purchases and medicines. Smooth operation of card payments and bank transfers is crucial in modern society.

In Finland, people have begun to ask how regulation should better cater to, for example, the operation of payment transfers in the event of serious disruptions. The Ministry of Finance has set up a working group to propose essential changes to regulation concerning the statutory duty to prepare for exceptional circumstances in the financial sector.

In addition to international dependency, systems also entail other risks which have their origins in the very nature of the systems themselves. For example, some systems entail credit risk between the participants. In such a case, there is a risk of non-payment, should one of the banks fail, for example. Liquidity risk, in turn, means that a counterparty temporarily runs out of funds and cannot make a payment on the due date.

The management of credit and liquidity risk is particularly important in regard to instant payment systems. Such systems are also being launched in Finland this year. Naturally, operational risks are also of key importance. Systems can become non-operational due, for example, to an unexpected technical problem or human error.

Digitalisation has brought about new kinds of vulnerabilities. There is increasing discussion about cyber risks that threaten various societal functions. Cyber risks are global in nature, and countering them requires international cooperation. It is of utmost importance to also focus resources on cyber security of payment and securities settlement systems.

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2. In securities clearing, a central counterparty interposes itself between the counterparties, becoming the buyer to the seller and the seller to the buyer.

A severe cyberattack targeted at a key financial infrastructure could powerfully paralyse society. Operations could become disrupted or – even worse – information on, for example, personal debts and assets could become distorted. Distrust of bank account balances would significantly complicate the handling of many everyday practicalities.

Criminals can make cyberattacks for disruptive purposes, but also with the aim of making money. For instance, counterparties using the services of SWIFT, the leading financial market messaging service, have been under cyberattack, and SWIFT has taken several measures in response.<sup>[3]</sup>

As technology advances, systems are also modernised and updated, which entails its own risks and challenges. For example, the Finnish central securities depository, Euroclear Finland, has been working on a large-scale project to overhaul its systems. The project has been ongoing for several years, and the timetable has been revised a number of times. Finnish markets will not be able to join the T2S platform according to the original schedule. As part of its oversight function, the Bank of Finland is monitoring the system overhaul closely and contributes to supporting the migration of Finnish markets to the T2S platform.

Management of various risks and sustained confidence are essential for the operation of systems. Confidence can be lost in an instant, but rebuilding it after a cyberattack, for example, takes a long time. Bank of Finland oversight seeks to ensure the soundness of systems both in normal times and during periods of stress.

Preparedness for unforeseen situations requires collaboration between the authorities and the private sector, because smooth operation of systems depends on all parties. The importance of commonly agreed contingency measures is underlined by the fact that operation of the infrastructure is vital for society as a whole.

Digitalisation, which is at present strongly shaping the landscape, poses an additional challenge for continuity arrangements (see Kari Kemppainen’s article ‘[Payments becoming increasingly real time and less visible](#)’). Payment and securities clearing and settlement systems must also be sound and secure in the ever-changing world of the future.

## Tags

- [contingency](#)
- [cyber security](#)
- [payment systems](#)
- [securities clearing and settlement systems](#)

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3. See [https://www.swift.com/myswift/customer-security-programme-csp\\_](https://www.swift.com/myswift/customer-security-programme-csp_).

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# Payments becoming increasingly real time and less visible

29 MAY 2017 3:00 PM • BANK OF FINLAND BULLETIN 2/2017 • FINANCIAL STABILITY •

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New players and practices are taking hold of the payments market. In Europe, these developments are also being driven by legislative amendments, with the revised Payment Services Directive entering into force in 2018. The three key trends in payments are fragmentation of the market, payments going real time and the actual act of payment fading into the background of the process. Amid these changes, the central bank has the task of ensuring reliable and secure payments also in the future.



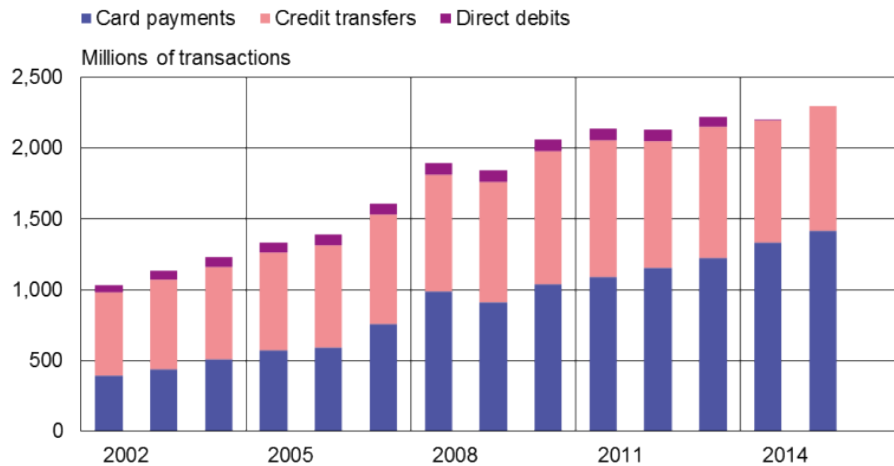
Digitalisation is strongly modifying many sectors of the economy, and the financial sector is no exception. A host of FinTech players have already entered or are about to enter the market to compete with traditional financial service providers. In addition to new agile FinTech companies, global internet giants marketing their own financial services are narrowing the playing field for established providers. The common aim of both of these new types of entrant to the financial markets is to deliver as pleasant and effortless a customer experience as possible. Ease of use, 24/7 availability and real-time payment are the hallmarks of tomorrow's financial services.

The act of payment represents an essential element of nearly all financial services. It is also exposed to the pressures for change brought by digitalisation. This is clearly revealed by Finnish payments statistics (Chart 1). In Finland, as in the other Nordic countries in general, electronic methods of payment have rapidly gained ground over the past few years. Card payment is currently the most common method of payment, and credit transfer is also widely used.



Chart 1.

### Changes in payment methods in Finland

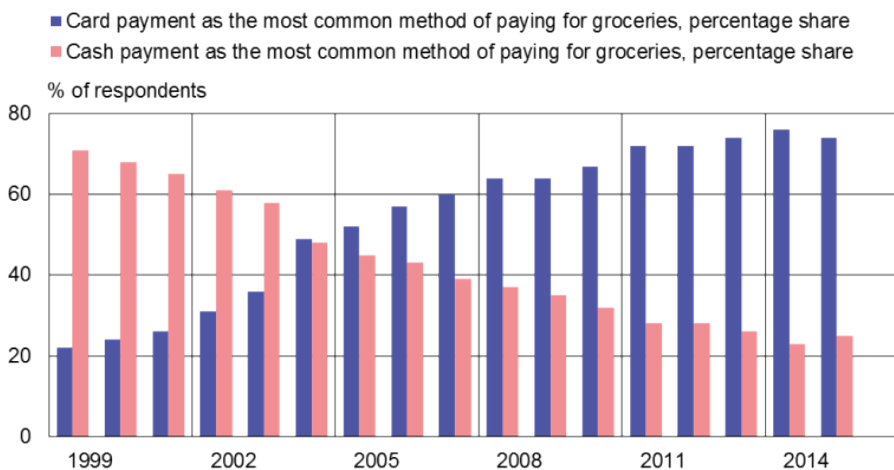


Sources: Bank of Finland and Federation of Finnish Financial Services.  
20 April 2017  
bofbulletin.fi

In step with electronic methods of payment gaining prominence, cash withdrawals have decreased. Although there are no absolutely reliable statistics available on the use of cash, the assumption is that cash usage in general has also been on the decline (Chart 2). This is partly related to the introduction of new payment applications, such as contactless payment by flashing the card at the payment terminal, and person-to-person (P2P) mobile payment using the recipient's phone number. Still, we do not anticipate that cash will disappear from the payments market, at least not in the immediate years ahead.

Chart 2.

### Most common method of paying for groceries



Source: Federation of Finnish Financial Services.  
20 April 2017  
bofbulletin.fi

## Effects of digitalisation on payments

Payments and the use of different methods of payment are influenced by the mega trends and drivers of change at work in society as a whole. Digitalisation has already strongly modified traditional practices in many different fields, and, for example, travel bookings and music shopping have largely moved online. This change in customer behaviour has turned traditional practices in these sectors completely on their head.

Similar development paths are also possible on the payments scene. When the expectations and habits of payment end-users – consumers, businesses and government – change, the requirements attaching to payment methods and their features follow suit.

The expectations and predictions about future methods of payment are examined in depth in an e-book entitled *'How do we pay in the 2020s? Perspectives on future payment solutions'*, prepared in a project within the auspices of the Bank of Finland's Payments Council.<sup>[1]</sup> The book is a collection of brief articles by various payment stakeholders (users and providers of services and the authorities), presenting their views on the future landscape of payments. In conclusion, the book identifies the following three key trends on the payments scene:

- 1) fragmentation of the payments market as new players enter the scene;
- 2) payments going real time;
- 3) invisible payments seamlessly fading into the background of the purchasing process.

## Fragmentation of the payments market

The fragmentation of the payments market is reflected in the multitude of payment applications already available on the market and in a steady flow of newcomers, with mobile payment applications in particular having taken huge strides forward recently.

On one hand, the new payment applications foster competition on the market and increase the freedom of choice of consumers, merchants and businesses, while, on the other hand, the fragmentation of the market also involves some challenges, for example in regard to what new methods of payment consumers should embrace and merchants accept.

The network structure of the payments market has a strong bearing on the choice of payment method. To prevail, a new method of payment must be adopted by consumers, merchants and businesses alike. The more users a payment method attracts, the more willing merchants and businesses are to adopt it. Hence, the fragmentation of the market is expected to decrease over time and the host of payment options in consumers' wallets and mobile devices and in the payment terminals of merchants and businesses be reduced to a few popular tools.

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1. See <https://www.suomenpankki.fi/en/money-and-payments/payment-systems/the-bank-of-finland-as-catalyst-payments-council/>.

We should also note that fragmentation has to date mainly been a concern of the market for payment applications rather than the underlying payment systems. Consequently, payment innovations have, as a rule, consisted of facilitating applications used to initiate payment transactions.

The payment systems used for executing payments have not changed much so far. Mostly, card payments and credit transfers still run in the background of the new payment applications. There are several different initiatives underway exploring the applicability of new technologies, including block chain technology, to the modification of payment systems. However, no major breakthroughs have been seen so far.

## Payments going real time

Real-time transfer is the second recent key trend in the field of payments. The requirement of real-time payment also touches on the general expectations entertained in the digital era of 24/7 service availability without any interruptions due to weekends or holidays.

Systems supporting real-time transfer of payments have been in use for some time already in certain countries (including Sweden, Denmark, Poland, the United Kingdom and Mexico), and the Euro Retail Payments Board (ERPB) has also worked towards the aim of introducing pan-European instant payment solutions in November 2017. Work on Europe-wide real-time payment solutions is currently in progress and, for example, EBA Clearing aims to launch its own solution on the market towards the end of the year.

At the beginning of March 2017, a real-time mobile payment system was also launched in Finland. This new *Sirto* application provides for real-time mobile transfers between banks. The general impression is that some kind of real-time payment solution will inevitably appear on the market in nearly every corner of the world.

## Seamless integration of payments with the purchase transaction

The act of payment fading into the background of the purchase transaction is the third key – and strengthening – trend in payments. This will of course make purchases easier and more convenient for consumers, who will, for example, need to submit payment card details to the service provider only once, after which purchases will be automatically charged to the card without a separate payment instruction.

While better service availability and greater ease and convenience of purchases are positive developments, as such, we must also ensure that the IT security solutions of payment service providers are of a sufficiently high standard. In addition, the payment fading into the background of the purchase transaction may, in the worst case, blur consumers' awareness and understanding of their budgetary constraints. To put it somewhat pointedly, running out of banknotes in the wallet will no longer act as a physical constraint. Easy-to-use and hidden payments underscores the need for embracing new financial literacy in the digital era.<sup>[2]</sup>

## Impact of legislative changes on payments

Obviously, the evolving future of the payments market is also determined by changes in legislation, as well as by the mega trends in payments. Revision of the Payment Services Directive (Second Payment Services Directive, PSD2) has been the major payments-related legislative initiative in the EU. PSD2 must be transposed into national law by 13 January 2018 and will be supplemented by technical standards and guidelines issued by the European Banking Authority (EBA). The aim of the Directive is to extend regulatory coverage to a broader range of payment services and bring regulations on payment services more in line with actual market developments.

The amended legislation defines the boundaries of the payments landscape and formulates rules of conduct for both established providers and new entrants. The key amendments in the Second Payment Services Directive include extension of the scope of regulation and supervision to cover Third Party Providers (Payment Initiation Service Providers (PIS) and Account Information Service Providers (AIS)) and open banking access through Application Programming Interfaces (APIs), which means that account-servicing banks must provide Third Party Providers with access to customer accounts, subject to the customer's consent. The Directive also requires application of strong customer authentication when the customer initiates an electronic payment transaction and accesses the payment account online.

Overall, the entry into force of the Second Payment Services Directive is expected to shape the payments market in that the new entrants will boost competition. This will force all payment service providers – incumbent as well as new – to improve their own services to meet the requirements of the digital era. Services will have to be easy to use, effortless and reliable.

Whether or not the different players will be successful in achieving this, and how the payments market will evolve will only be seen in the years following the entry into force of the legislation. Even now the market has shown signs of increasing cooperation between established providers and new entrants. This is likely to be to their mutual benefit.

## The Bank of Finland's roles

In its capacity as the authority responsible for payment system oversight,<sup>[3]</sup> the Bank of Finland monitors and carefully analyses developments on the payments market. Regular oversight assessments are conducted of systemically important payment systems, whether already in operation or about to start, either at national level or jointly within

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2. The digitalisation-driven developments on the financial markets also challenge the financial literacy of consumers through other channels. With new players and regimes entering the scene, a major expansion has been witnessed in recent years in the supply of consumer credit to include non-bank providers of credit, and consumers may remain unaware of the differences between – and risks of – individual regimes. For a more detailed analysis, see Kimmo Koskinen and Olli Tuomikoski's article [‘The overall picture of debt accumulation gets blurred as provision of consumer credit becomes diversified’](#).

3. For further information, see Heli Snellman's article [‘Payments must be smooth under all circumstances’](#) ].

the Eurosystem.<sup>[4]</sup> The purpose is to ensure the reliable and secure functioning of the systems under all circumstances.

In its role as catalyst, the Bank of Finland seeks to promote market development to ensure the availability of reliable and efficient payment solutions for Finnish society as a whole. This work is partly undertaken within the Payments Council under the Bank's leadership. The Payments Council is a national cooperation body tasked to develop retail payments, bringing together users and providers of payment services and the authorities. It analyses and assesses changes in the operating environment, current payment initiatives and the impact of regulation.

The digitalisation-driven transformation of the payments landscape highlights the importance of open dialogue and exchange of ideas between stakeholders. The reliability, security and efficiency of payment systems will ultimately depend on the smooth cooperation of all the links in the payment chain.

## Tags

- [digitalisation](#)
- [FinTech](#)
- [legislation](#)
- [payment systems](#)
- [payments](#)

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