



FINANSINSPEKTIONEN

Stability in the Financial System

29 NOVEMBER 2017



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We are building resilience

The Government has assigned Finansinspektionen (FI) the task of reporting its assessment of financial stability and possible financial imbalances in the Swedish economy twice a year. This is the second report for 2017.

RISKS BUILD UP DURING GOOD TIMES

The economic recovery in Sweden and in Europe is stronger compared to six months ago. This has contributed to decreased uncertainty regarding the stability in the European banking system even though there are still significant weaknesses. Naturally, the favourable economic developments are to be embraced, but it is when things are going well and optimism is high that risk-taking usually increases. For example, this increased risk-taking can now be seen in high asset prices and low risk premiums. Because we have had very low interest rates for a long time, there is a greater probability of risk-taking that will not be sustainable in the long-term once interest rates gradually normalise. In such a situation, it is FI's task to continue to build resistance – in both financial companies and households – to the challenges that will eventually arise.

RESILIENCE HAS IMPROVED

The strong macroeconomic development in recent years has contributed to good financial strength in the Swedish financial industry. Increased regulatory requirements on capital strength and liquidity have also contributed, but even if resilience in general is satisfactory, there is no guarantee for the future. The financial and macroeconomic environment can quickly deteriorate if major shocks strike the international economy. Even if a lot has been done to avoid a recurrence, we must not forget what happened in the autumn of 2008.

In addition, more long-term structural changes on the financial market are under way as a result of new technology, new requirements from customers and regulatory changes. One example is “mortgage funds”, which can offer mortgage financing outside the banking system. These changes can improve efficiency, competition and customer benefits in the financial sector, but also introduce new risks and thus new demands on supervision. It is therefore important that FI closely follow these changes.

New financial regulations have been introduced in the EU in recent years and several of the existing regulations have been revised. The European Commission is currently working on a regulatory banking package, which in part affects the design of the capital requirements. For FI, it is important to safeguard risk-based and transparent capital requirements, which make it possible to build up and utilise different forms of buffers primarily in the management of systemic risks.

A STRICTER AMORTISATION REQUIREMENT

Building resilience is particularly important given the state of the Swedish economy, where good growth and falling unemployment are coexisting with extremely low interest rates. This combination has created a spiral in which asset prices and liabilities have grown too fast. This positive development will eventually level off, and the high levels of debt could amplify the downturn.

The risk of financial imbalances has been most obvious in the mortgage market. Household debt has been rising for a number of years, primarily due to rising house prices. Similar tendencies, even if not as pronounced, can be also noted on the commercial real estate market. FI implemented a number of measures to improve the resilience in the financial sector and among households. In order to protect the resilience of Sweden and individual households, households with high loans in relation to their income must become even more resilient. FI's proposed stricter amortisation requirement is linked to the relationship between the borrower's loan and income.

At the same time, it is important to balance such measures against the risk that too much intervention could trigger the very kind of crisis that the measures are intended to prevent, i.e. a large and fast fall in prices. House prices have fallen recently, but not by much given the extremely sharp increase in prices over the past few years. FI takes the position that the model proposed for a stricter amortisation requirement meets the requirements of a balanced measure. A limited group of new mortgagors – approximately 15 per cent – will be affected by the requirement, and the requirement will not have a major effect on the financially weakest groups on the housing market. The stricter amortisation requirement is also being introduced in an environment with good growth, low unemployment and high savings, which also contributes to a reduction in the risks for undesired effects.

FI has often stated that the authority alone cannot rectify the imbalances on the credit market that are driven by the conditions on the housing market. This requires a unified approach on a broad front that includes multiple policy areas and multiple public bodies. However, given our assignment, we cannot sit and wait for others to make decisions on alternative measures. We are using the tools we have, and we are contributing here and now in the best way we can. This is how we fulfil our mission.

Stockholm, 29 November 2017



Erik Thedén
Director General

Summary

The Swedish economy continues to be strong and interest rates are extremely low, which contributes to high asset prices and low risk premiums. As global interest rates rise in the future, there is a risk for an increase in risk premiums and a fall in asset prices, which could be stressful for the financial system. It is therefore important for the major Swedish banks to have satisfactory resilience and the life insurance companies to be financially strong. Even though house prices have slowed and even fallen slightly, household debt continues to increase. The risks associated with high house prices and large household debt continue to be elevated. In order to further strengthen household resilience, FI therefore submitted a proposal to the Government for a stricter amortisation requirement.

Global growth is increasing, and the Swedish economy is still strong. Resource utilisation in Sweden is high and unemployment is low, and the political uncertainty in Europe in the spring has eased. The stable political situation is also one of the explanations for why the financial markets have been calm over the past six months. During the autumn, the economic recovery led to slightly less expansive monetary policy in the USA and the UK.

The European central bank and the Riksbank, however, are keeping their record-low interest rates. The stronger growth and drawn-out period of low interest rates have meant that there is a greater risk that imbalances have built up, in part through assets that are overvalued due to investors' hunt for returns. Such imbalances could amplify a future crisis since it is not certain how the financial markets will react when the central banks start to withdraw their expansive monetary policy. Therefore, FI sees a risk for greater market stress and price corrections once interest rates rise.

CHANGED CAPITAL REQUIREMENTS CAN CREATE A NEW PLAYING FIELD

The Swedish banking system is large and dominated by four closely interconnected banks. The banks are dependent on market funding, which makes the system vulnerable. FI makes the assessment that Swedish banks in general have satisfactory resilience and are able to maintain critical services even given turbulent conditions. They are able to do so because they continue to report good profitability, low credit losses and high levels of capital in relation to the risks in their operations. The banks' capital consists largely of buffers that can be used as temporary shock absorbers during crises.

The banks' capital requirements will be different in the future. Revisions to the EU regulations on capital adequacy and future standards from the Basel Committee on limitations to the internal models and a floor for the risk-weighted assets mean that the playing field is changing, and the capital requirements need to be developed. FI's work with the proposed changes is based on four principles: the capital requirement shall be risk-based, be transparent, contain significant buffers that can be used in the event of losses and, last but not least, take into account the systemic risks that, for example, are associated with size and interconnectedness.

INFRASTRUCTURE COMPANIES FACE NEW CHALLENGES

The securities markets play a central role in financial stability since they both set the prices and allocate risks and capital. FI makes the assessment that it is primarily the fixed-income and currency markets that are systemically important. Despite relatively stable development and low volatility on the securities markets, there are some signs of constrained market liquidity. This can make these markets vulnerable in stressed situations when liquidity always tends to become tight.

In order for the securities markets to function, they need a well-functioning infrastructure, where clearing and settlement of payments and securities transactions can be conducted without disruption. FI makes the assessment that infrastructure companies are functioning in a satisfactory manner. There is a high level of operational reliability in these systems, but the infrastructure companies will be facing both regulatory and technological adjustments in the future. During this forthcoming transition, there is a greater risk of disruption and failure and thus even the need for good risk management.

The system with central counterparty clearing makes counterparty exposures more transparent, which in turn makes it easier to manage counterparty risks. The Swedish market for central counterparty clearing has a few participants. The concentration of counterparty risk and the operational interconnectivity inherent in such a system raise the risk that shocks will spread rapidly. This is why central counterparties are considered to be systemically important. As central counterparties grow in importance, it becomes more important to understand mutual dependencies and concentration risks. FI will follow the developments to better assess the risks to financial infrastructure and financial stability.

INSURANCE COMPANIES ARE FINANCIALLY STRONG

The insurance sector manages large amounts of assets primarily to cover future pensions. Changes in the interest rate have a large impact on the companies' positions. Today's low rates have weakened the companies' equity/assets ratio. These effects, however, have been offset by growth in the stock markets and the design of the regulations for the valuation of life insurance companies' debt. Life insurance companies have thus maintained their strong financial position.

Even though life insurance companies are facing good conditions for meeting the capital requirement during a sharp downturn in the stock market, such a situation could result in a major reallocation of their assets, which in turn could enhance the fall in the stock market and press down interest rates. This risk is particularly relevant today since there are signs of constrained liquidity on the fixed-income market. This may be problematic if large flows must be managed.

At the beginning of the autumn, FI submitted a proposal to the Government on the capital requirement regulation for institutions for occupational retirement provision. According to the proposal, the capital requirement is divided into two levels: a standardised requirement and a risk-based requirement. The risk-based capital requirement is a buffer that is intended to absorb shocks and counteract procyclicality in asset management. The companies will thus not be forced to make large, unfavourable reallocations in a stressed situation if they suffer losses, but rather have the possibility of recovering on their own.

NEED FOR A STRICTER AMORTISATION REQUIREMENT

The sharp increase in prices on the housing market turned in the autumn. The slow-down over the past six months is more pronounced in Stockholm and particularly in prices of tenant-owner apartments. The amortisation requirement that FI implemented in 2016 and a greater supply of homes has probably contributed to the slow down in house prices. This slow-down is minor in relation to the increase in prices that has occurred over a long period of time. In the past three years alone, house prices have increased by approximately 30 per cent.

The unique economic situation in Sweden with low interest rates, high asset prices and high economic growth continues to drive household and corporate debt upward. Households are optimistic about their finances, their assets increased more than their debt and their savings are record-high. FI makes the assessment that households are facing good conditions for repaying their loans, but highly indebted households may still reduce their consumption during a future crisis and thus amplify the crisis. Household debt therefore continues to be considered a macroeconomic risk.

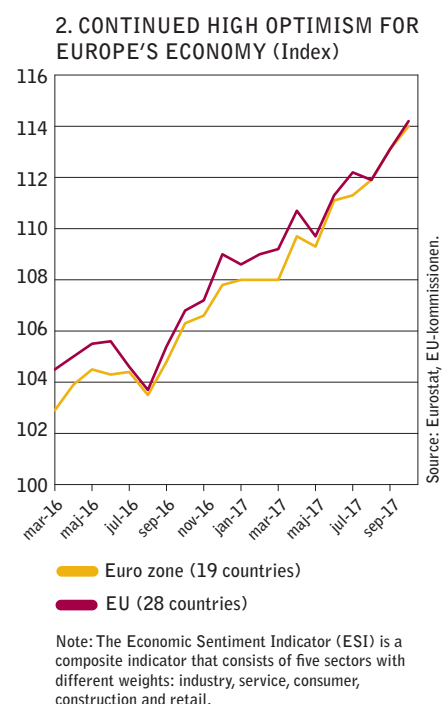
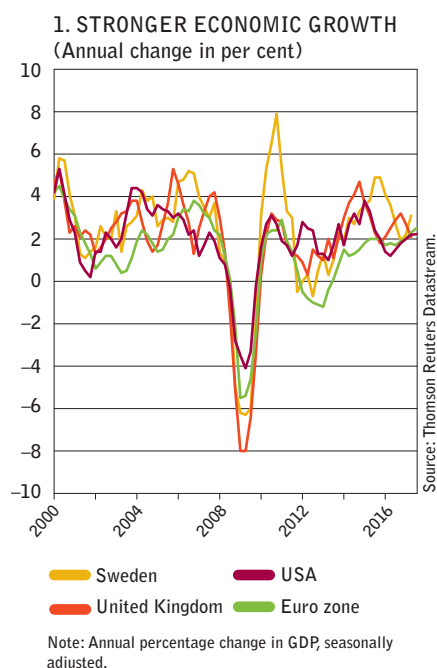
The slow-down in prices can be seen as a healthy sign, given that it occurs in an environment with good economic conditions. Despite the slow-down, FI makes the assessment that the macroeconomic risks associated with high and growing household debt continue to be elevated. The current amortisation requirement has reduced the vulnerabilities, but FI, like before, is concerned about the development of high and rising loan-to-income ratios. There is therefore still a need for a stricter amortisation requirement, and FI submitted its proposal to the Government for approval.

ELEVATED RISKS IN COMMERCIAL PROPERTIES

Historically, commercial properties have played a central role in many financial crises. Prices in the commercial real estate sector are currently strong. The loan-to-value ratios have fallen, but debt in relation to net operating income is at historically high levels. Shocks in the form of rising interest rates or decreased rental income could therefore lead to problems. FI considers the risks associated with the sector to be significant and will continue to follow and analyse any developments.

State of the economy

The global economy is on track and the recovery in Europe continues to improve. The Swedish economy continues to have strong growth while interest rates are very low. Low interest rates and strong growth result in high asset prices, and Swedish house prices in particular are high. The central banks are now starting to slowly normalise their monetary policy, which could lead to higher risk premiums on the financial markets and downward readjustments in asset prices.



A stable and well-functioning financial system, in which firms can borrow to make investments and households can borrow to smooth out their consumption over time, plays a central role in a well-functioning economy. The developments in the real economy are also important for financial stability, since large fluctuations in the economy can create uncertainty and increase the risk of incorrect investments. Large shocks in the real economy could therefore threaten financial stability.

Sweden is a small, open economy where economic growth is greatly influenced by external factors. The financial system in Sweden is also closely linked to the global financial markets, and there is a risk that shocks on these markets will spread to the Swedish economy.

STRONGER GLOBAL ECONOMY

Global economic growth increased in 2017 (Table 1). The International Monetary Fund (IMF) has revised its forecasts upward and makes the assessment that global economic activity will increase in the future while macroeconomic risks will decrease.¹ Growth markets are important for global growth, although the economies in the USA and the Euro zone are expected to grow at a sufficient rate for resource utilisation to rise.

TABLE 1. GDP growth, annual percentage growth

	2016	2017	2018
Global	3.2	3.6	3.7
Growth markets	4.3	4.6	4.9
USA	1.5	2.2	2.3
Euro zone	1.8	2.1	1.9
Sweden	3.1	3.0	2.8

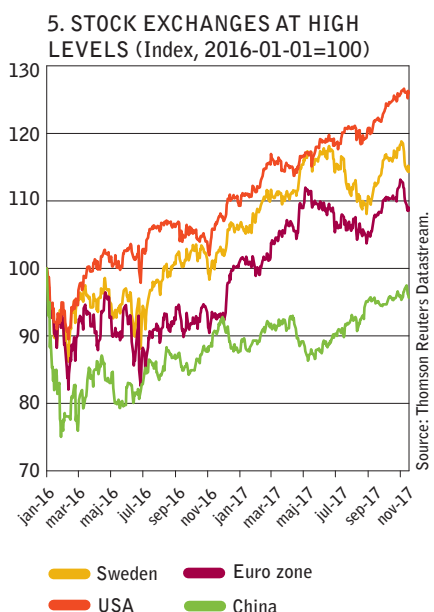
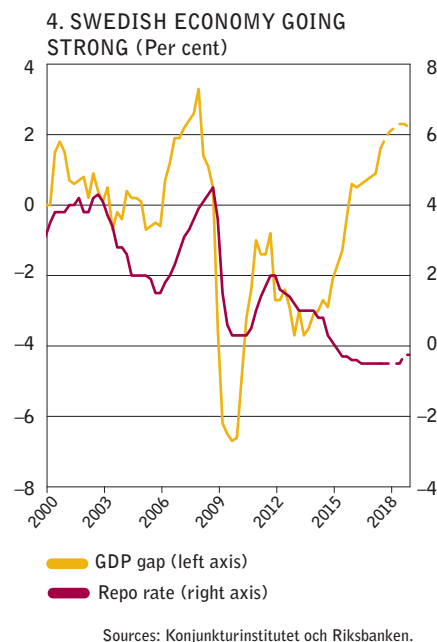
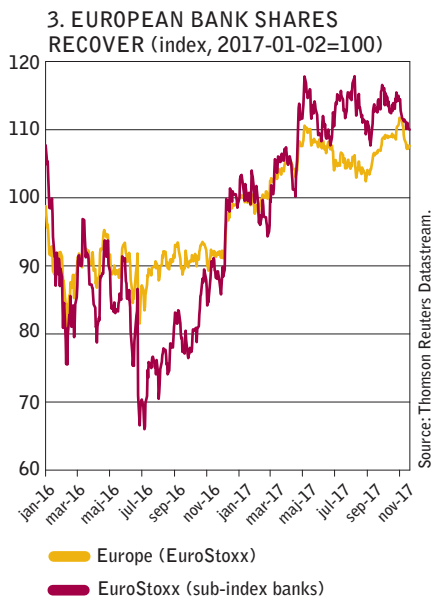
Source: IMF World Economic Outlook and National Institute of Economic Research.

Note: 2017 and 2018 are forecasts.

The economy in the USA is still strong, and investments and household consumption in particular are rising (Diagram 1). If promised financial policy stimulants are introduced, the growth rate could increase even more. The labour market is strengthened as employment rises; unemployment is also falling and resource utilisation is higher.

In Europe, both the economic outcome and outlook improved during the year. It is primarily positive that economic growth has increased in the southern European countries, which struggled with the after-effects of the debt crisis for a long time. The expansive monetary policy continues to support the ongoing economic recovery in the euro zone. Since

1 World Economic Outlook and Global Financial Report, IMF October 2017.



the beginning of the year, employment has increased and unemployment is down to approximately 9 percent. This is the lowest level since 2009. Confidence indicators are showing rising levels of optimism among consumers and companies, which indicates increased growth in the next few quarters (Diagram 2). Financial uncertainty in Europe has also diminished recently following successful elections for EU-friendly parties in some of Europe's larger countries.

WEAK EUROPEAN BANKS ARE GETTING STRONGER

Confidence in the banking sector in the euro zone has increased as a result of the strong economic growth. This is visible, for example, in the stock market, where bank shares have outperformed the stock market index since the beginning of the year (Diagram 3), but profitability is still low, even if European Central Bank (ECB) expects an improvement as the economy grows. Today's low interest rates mean lower funding costs for the banks, but central and southern European banks are still struggling with profitability issues. One reason for this is that the balance sheets of several European banks continue to be burdened by large portfolios of non-performing loans. During the year, sales of non-performing loans increased, which has led to some relief for these banks, but many European banks are still vulnerable to shocks. If the economic recovery were to slow or greater friction were to emerge in the European cooperation, this could lead to turbulence on the financial markets and new problems for the banks. This could in turn have a negative effect on financial stability in the euro zone and spread to Sweden, both through the financial markets and through a weaker real economy in Europe.

SWEDEN FACES UNIQUE CONDITIONS

The Swedish economy is strong and currently finds itself in a unique situation with high resource utilisation and very low interest rates (Diagram 4). National Institute of Economic Research has revised its growth forecast upward and makes the assessment that the Swedish economy will continue to become stronger.² The Swedish economy is supported by high domestic demand and growing economic activity in Europe.³ There have also been positive developments on the labour market. Unemployment is at 6.7 per cent and employment is record-high.⁴ Demand for labour continues to be high, and it has been more difficult for firms to recruit qualified staff. Despite the strong labour market, however, there has not been a large increase in wages. This could be because of the slow economic recovery and continued low wage increases in Europe.⁵

SMALL MOVEMENTS ON FINANCIAL MARKETS

The financial markets have been calm the past six months and the US stock exchanges have continued to climb (Diagram 5). In Europe,

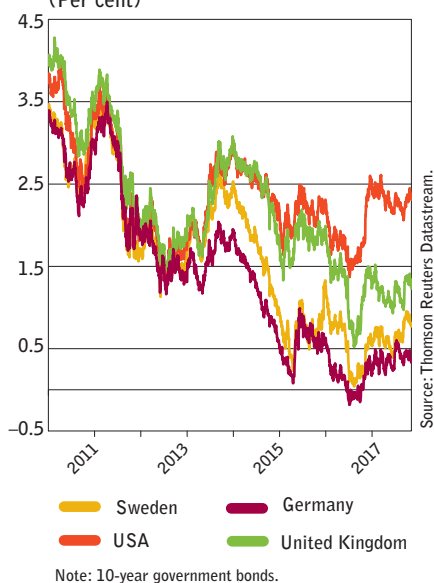
² *The Swedish Economy*, National Institute of Economic Research, August and October 2017.

³ IMF Mission Concluding Statement, 2017 Article IV. Consultation with Sweden.

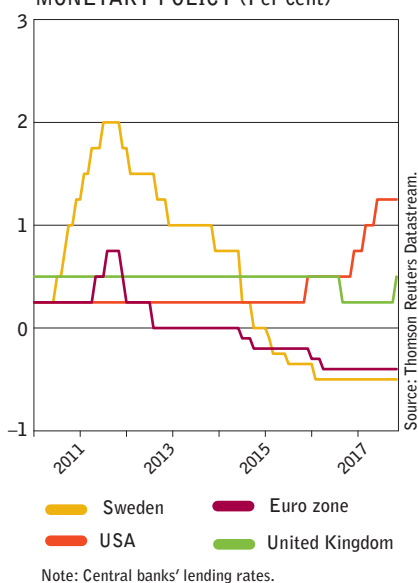
⁴ *Wage Formation in Sweden 2017*, National Institute of Economic Research October 2017.

⁵ *The Swedish Economy*, National Institute of Economic Research June 2017.

6. INTEREST RATES UP SLIGHTLY (Per cent)



7. SLOW NORMALISATION OF THE MONETARY POLICY (Per cent)



however, the stock exchanges have been at the same level since June. This could be in part because the Euro appreciated during the period, which resulted in lower expectations for some companies' profits. In Sweden, the stock exchange rose at the beginning of the autumn, but has now fallen in November and is back at approximately the same level as in June.

The long-term government bond rates in the fixed-income markets in the USA and Europe have been rising for more than a year after some central banks carefully began to withdraw their expansive monetary policy (Diagram 6). The rates of Swedish long-term government bonds have risen as these rates increase in other countries. Rising interest rates help, for example, improve the financial position of insurance and pension companies (see *Stability in the insurance sector*). The increase in interest rates has been limited, and interest rates continue to be very low.

CENTRAL BANKS DE-ACCELERATE

The monetary policy in many countries has been very expansive since the financial crisis in 2008, when interest rates were lowered to stimulate growth and inflation. Despite good growth, inflation in many countries has remained below the central banks' targets. One important reason for the low inflation is that stronger developments on the labour market have not resulted in an increase in wages. Due to the economy's strong growth, the Federal Reserve (the US central bank) began to raise its policy rate in December 2016. This year it raised its policy rate twice to the interval, 1.00–1.25 per cent (Diagram 7). In October, the Fed also began to reduce its large balance sheet of USD 4,500 billion. This means that the crisis programme that was introduced in conjunction with the financial crisis in 2008 will now start to be withdrawn. Several central banks have already begun to normalise their monetary policy. Bank of England raised its policy rate for the first time in ten years from 0.25 per cent to 0.5 per cent, and Bank of Canada raised its policy rate twice since the summer to 1 per cent.

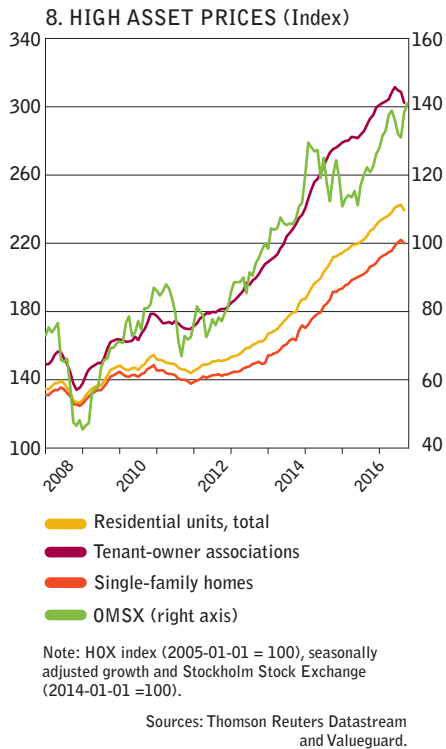
ECB continued its expansive monetary policy in order to counteract the low inflation. ECB's lending rate remains at a record-low -0.4 per cent and the bank is continuing to purchase assets. In October, ECB decided to reduce its asset purchases starting in January 2018 from EUR 60 billion to EUR 30 billion per month.

In Sweden, inflation has gained speed in recent months and at times was above the target of 2 per cent. The upswing is in part due to temporary factors, and the Riksbank therefore has made the assessment that the monetary policy needs to continue to be very expansive.⁶ The current forecast is that the first increase in the key rate will occur in mid-2018.

HIGH ASSET PRICES MAY FALL

The low interest rates over a period of several years have contributed to investors on a global scale turning to riskier assets in their hunt for returns. Shares and other risky assets, as a result, have increased in value, and risk premiums have been under pressure. Several bodies are indicating that there is a risk of major price corrections if the global

⁶ Monetary Policy Report, Sveriges Riksbank, September and October 2017.



risk appetite were to rapidly decline, e.g. as a result of an economic shock or sharp increase in interest rates.⁷

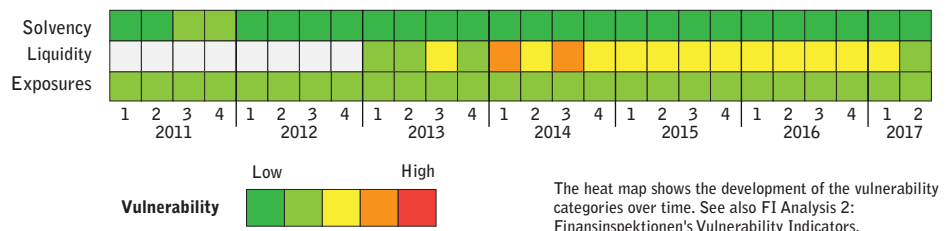
In Sweden, the very low interest rates and the strong growth have meant that prices for shares and residential and commercial property have risen sharply over the past few years (Diagram 8). Given the strong economy and low interest rates coupled with fundamental imbalances in the housing market, there is a risk that house prices and debt will become too high. This could contribute to financial imbalances and growing vulnerabilities, which in turn could cause stresses when the economy dips or interest rates begin to rise in the future. Over the past three years, house prices have increased by approximately 30 per cent. High house prices do not necessarily mean that the homes are overvalued, but prices have been rising faster than household disposable income for a long time. Commercial property has also risen in value due to strong financing possibilities, low interest rates and continued high demand. The property market has often played a central role in financial crises, and the recent developments mean that risks may be building. A general price correction on the real estate market could amplify and deepen a crisis.

⁷ Global Financial Stability Report, IMF October 2017. Financial Stability Review, ECB May 2017.

Stability in the banking sector

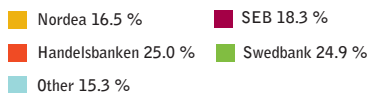
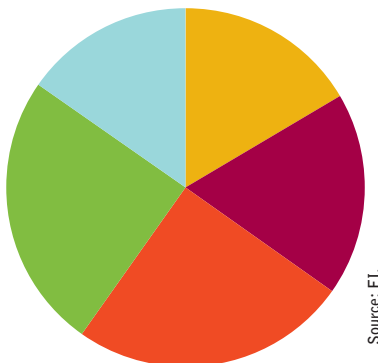
FI makes the assessment that the resilience of the major Swedish banks is satisfactory. The major banks continue to report good profitability, low credit losses and high levels of capital in relation to the risks in their operations. They also meet FI's requirements on liquidity coverage. Many important regulations that steer the capital requirements for banks are under review, including both the EU regulations for capital coverage and the Basel standards. This means that the design and application of the capital requirements will change to some extent in the future.

Vulnerability indicators for the banking sector

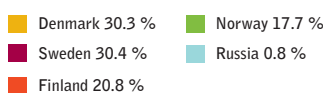
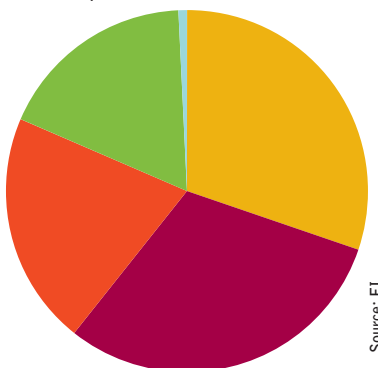


The heat map shows the development of the vulnerability categories over time. See also FI Analysis 2: Finansinspektionen's Vulnerability Indicators.

9. DISTRIBUTION OF THE MAJOR BANKS' LENDING IN SWEDEN
(Per cent, Q2 2017)



10. DISTRIBUTION OF NORDEA'S LENDING PER COUNTRY
(Per cent, Q2 2017)



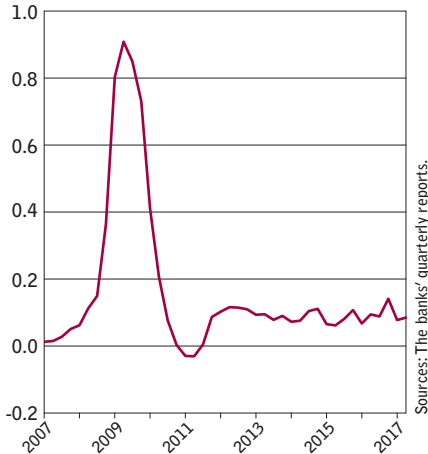
Banks play a central role in the financial system. They enable households and companies to make payments, transform savings into financing and manage risks. If the banking system were not able to provide these services, the economic costs could be high. To ensure that they are able to provide this function even during economic downturns, banks must be sufficiently resilient to handle any shocks. Good resilience at the banks reduces the risk that problems will spread to other parts of the financial system. It is easier for a well-capitalised bank that has good earnings to not only carry credit losses but also obtain ongoing market funding for its assets. Banks also need to have liquid assets in order to be able to handle periods when funding conditions are less favourable.

THE SWEDISH BANKING SYSTEM IS LARGE AND INTERCONNECTED

There are currently around 120 banks, credit market companies and other credit institutions with authorisation from FI to conduct business in Sweden. The four major banks represent approximately 80 per cent of all lending in the banking system in Sweden. The major banks therefore play a central role in how the Swedish banking system functions. FI prioritises supervision of the major banks and places higher demands on their capital and liquidity. The fact that the banking system is concentrated to such a small number of large banks can make it more vulnerable, since problems in a major bank can lead to less than optimal performance by the financial system as a whole.

Nordea's Board of Directors recently proposed moving the company's parent company from Sweden to Finland and thereafter operating the Swedish banking operations through branches. The scope of Nordea's operations in Sweden would not change (Diagram 9), and Sweden would continue to be an important market for the bank (Diagram 10). The change would instead be of major significance for the distribution of responsibility between the affected countries in terms of supervision and crisis management.

11. BANKS' CREDIT LOSSES (Average, per cent of total lending on annual basis)



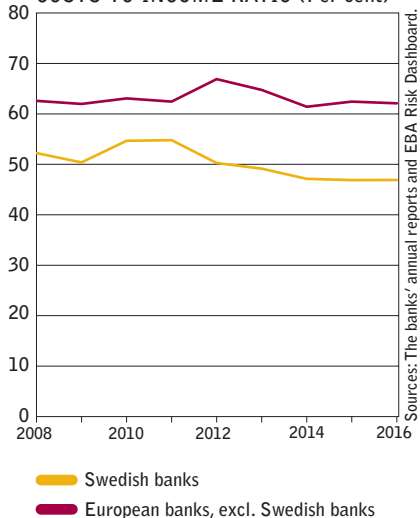
Note: Loan losses as a percentage of total lending to the private and public sectors. Unweighted average. (Credit loss level).

12. MAJOR BANKS' PROFITS CONTINUE TO BE HIGH (SEK billion, rolling 4 quarters)



Note: Refers to the four major banks' profits after tax, that is, profit/loss for the year attributable to the shareholders prior to payments of dividends.

13. MAJOR BANKS' COSTS-TO-INCOME RATIO (Per cent)



Nordea's Board of Directors proposed moving the parent company to Finland

On 6 September, Nordea's Board of Directors proposed initiating a process to move the parent company (Nordea Bank AB) from Sweden to Finland. Nordea can apply for permission to move following a decision by the Annual General Meeting in March. In order for the move to ultimately occur, it must be approved by the supervisory authorities. Nordea intends to complete the move by recreating parent company Nordea Bank AB in a new Finnish subsidiary. The Bank plans to carry out the merger during the second half of 2018. The subsidiary, Nordea Hypotek, will remain in Sweden under the supervision of FI. By moving its Head Office to Finland, Nordea will become a significant branch in Sweden, just like Danske Bank is today. ECB/ Finanssivalvonta then becomes Nordea's home country authority and FI its host country authority. This means that FI will continue to participate in the supervisory college for Nordea and supervise, for example, the bank's capital and risk management, but the primary supervision responsibility will be turned over to ECB.

On 1 January 2018, new guidelines enter into force from European Banking Authority (EBA). These guidelines strengthen the host country's possibilities for exercising supervision of branches that are considered to be of significant importance. When it comes to matters related to conduct, such as money laundering and consumer protection, FI's supervision responsibility is not as dependent on whether business is conducted through a company or a branch. In these matters, FI's supervision will continue approximately as before. FI will also still be the macroprudential authority for Nordea's Swedish operations.

In addition to handing over its supervision responsibility, the primary resolution responsibility for Nordea will be transferred from the Swedish National Debt Office to the Single Resolution Board (SRB) in the banking union, to which Finland belongs as a euro country.

BANKS HAVE GOOD EARNINGS AND HIGH PROFITABILITY

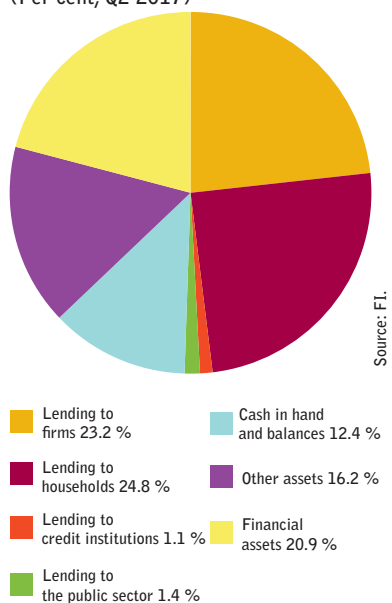
The banks as a whole have sound profitability. The net interest income of the major banks has continued to increase over the past six months, as has net commission income as a result of high activity on the capital markets. The favourable economy contributed to the continued low level of credit losses (Diagram 11). As a whole, the major banks' profits continue to be high (Diagram 12).

In general, the major Swedish banks have a lower cost-to-income ratio compared to other major European banks (Diagram 13). This is a key reason for why the Sweden banks' return on equity is higher.

Forecasts regarding economic growth (see *Household and corporate debt*) and confidence indicators as well as the banks' own expectations for the future indicate that lending to corporates will continue to increase in the future, primarily in Sweden.⁸ FI also makes the assessment that the banks' lending to households will continue to increase. Due to the current high interest rate margins combined with continued lending growth, FI expects the banks' net interest income to continue to increase over the next few years.

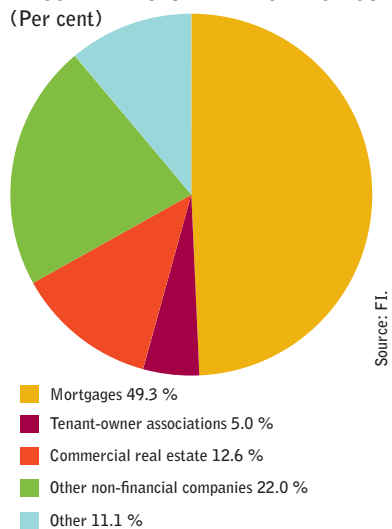
⁸ See, for example, *Almis Loan Indicator*, June 2017, *Economic Tendency Survey*, March 2017 and *The Swedish Economy*, March 2017.

14. DISTRIBUTION OF THE TOTAL ASSETS OF THE MAJOR BANKS
(Per cent, Q2 2017)



Source: FI.

15. DISTRIBUTION OF THE MAJOR BANKS' CREDIT PORTFOLIOS
(Per cent)



Source: FI.

Note: Other primarily consists of lending to other financial firms.

HIGH EXPOSURE TO THE PROPERTY SECTOR

Lending to households and corporates constitutes just over half of the four major banks' total assets (Diagram 14). Eighty-five per cent of lending to households consists of mortgages and almost half of lending to corporates goes to commercial property in some form, including lending to tenant-owner associations (Diagram 15). The developments on the real estate market therefore have a major impact on the banks' financial position. Homes or other properties are often used as collateral for the banks' lending. Collateral reduces the banks' credit risks, but during periods of crisis the value of the collateral can be uncertain and if prices were to fall the value of the collateral could fall. If borrowers were to simultaneously experience repayment difficulties, there is a risk that the banks would suffer extensive credit losses.

When it comes to household mortgages, FI makes the assessment that there is currently a low risk that the banks would experience major credit losses. FI's stress tests show that most households are able to repay their loans and have good margins for handling a fall in house prices and rising interest rates (see *Household and corporate debt*).

Bank lending to commercial property can take on different forms, for example lending against collateral in individual properties or lending to real estate companies. The major Swedish banks have extensive exposures to real estate companies, which constitute more than 20 per cent of their total lending and thus are the second-largest individual exposure after mortgages. The commercial real estate sector has historically often stood at the centre of major financial crises, both in Sweden and in other countries. For example, the crisis in the 1990s was triggered by a fall in the prices of commercial property, and the majority of the banks' credit losses came from there. For FI it is therefore important to follow both the developments in the sector and how the banks are managing their exposures to the sector.

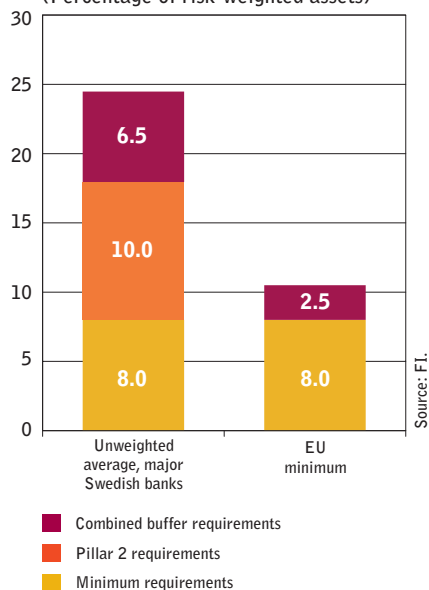
In Sweden, prices for commercial property have risen sharply over the past few years. Bank lending to the sector has therefore also increased, but at a lower rate than lending to non-financial firms. FI makes the assessment that the Swedish banking system as a whole exhibits caution in its lending to real estate companies, but the combination of low interest rates and a strong economy are elevating the uncertainty surrounding price levels and future profitability in the commercial real estate sector. FI has therefore widened its analysis of this sector and is following the developments closely (see *Household and corporate debt*).

SATISFACTORY RESILIENCE

The primary purpose of the capital requirements is to ensure the banks have sufficient resilience to losses. This means that they must be able to handle periods of stress without a sharp deterioration in their ability to provide key services to society. It is therefore important for the banks to hold sufficient capital and that this capital can be used when losses are incurred. These requirements are based on how much risk the banks are facing in their operations and consist of components that are set directly by regulations as well as components that are determined by FI.⁹ The capital requirements for the major Swedish banks are high

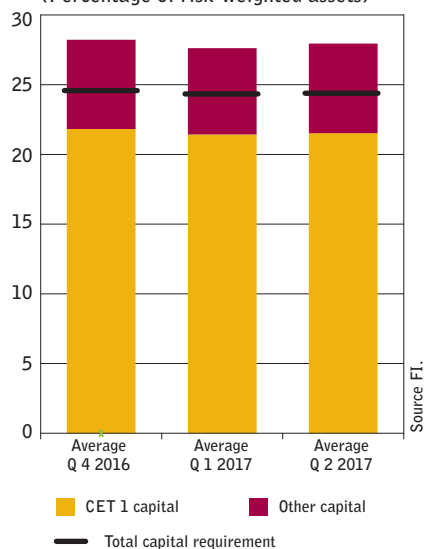
⁹ For more information about the capital requirement's components and function, see Chapter 2 of *Svenska bankers kapitalkrav*, September 2014 (Ref. 14-6258), FI. An English translation is available at www.fi.se.

16. MINIMUM REQUIREMENT SUPPLEMENTED WITH CAPITAL BUFFERS
(Percentage of risk-weighted assets)



Note: Refers to Q2 2017. Total own funds as a percentage of risk-weighted assets. Unweighted averages for the major Swedish banks.

17. MAJOR BANKS MEET CAPITAL REQUIREMENTS BY GOOD MARGIN
(Percentage of risk-weighted assets)



Note: Unweighted averages for the consolidated situations.

from a European perspective, and a large percentage of the capital requirements consist of buffers in the Pillar 1 and Pillar 2 requirements (Diagram 16).

The Swedish banks' long history of very low credit losses means that the risk weights the banks are using in their internal models in some cases are lower than what FI considers to be justified from a long-term perspective. Because the banks' risk weights and capital requirements must take into account crises with higher losses, FI uses supervisory methods that ensure the capital requirement corresponds to the risk.¹⁰

The major Swedish banks meet the risk-based capital requirements by a good margin (Diagram 17). Their average capital ratio amounts to 28 per cent and the gap to the European banks has increased slightly over time (Diagram 18).¹¹ Looking at the leverage ratio, which is a measure of capital that does not consider the underlying assets, the major Swedish banks are instead close to the median for European banks (Diagram 19). All of the major Swedish banks are well above the leverage ratio minimum requirement of 3 per cent proposed by the European Commission in its review of the CRR (part of the regulatory banking package).

As a whole, the high profitability and significant capital buffers at the Swedish banks in general indicate satisfactory resilience, even in a stressed scenario. The vulnerability indicator for the equity/assets ratio in the banking sector has also demonstrated low vulnerability for a long time.

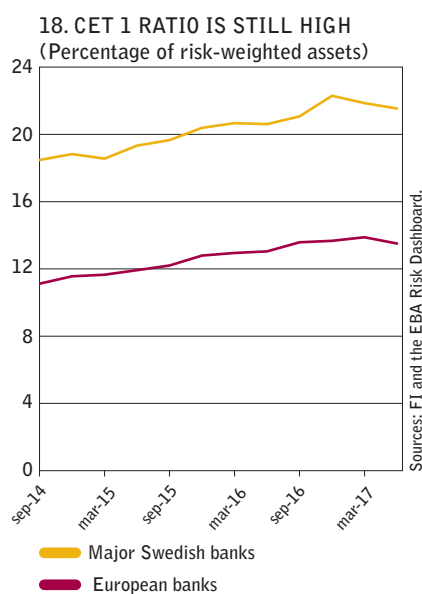
CAPITAL BUFFERS SHOULD BE LARGE AND AVAILABLE FOR USE

Capital requirements consist of minimum requirements and buffer requirements. The minimum requirements specify the lowest level of capital that a bank must hold to be able to conduct business. If a bank falls below this level, there is a risk that it will lose its authorisation to conduct business and then either be set into resolution or wound down. In addition to the minimum requirement, banks must also hold capital buffers, which can be viewed as shock absorbers to cover losses during economic downturns. These buffers are intended to prevent the banks from breaching the minimum requirement during periods of stress.

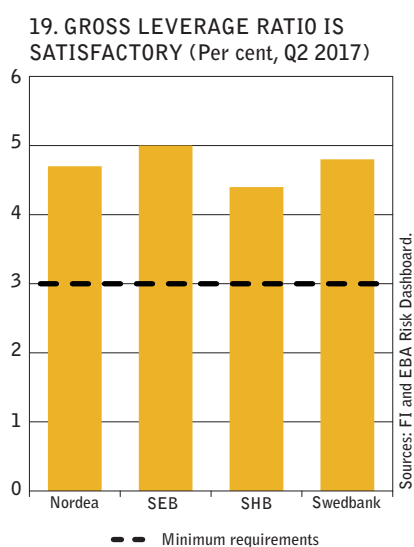
Ensuring that the banks have sufficient buffers for keeping the confidence of the market and being able to cover unexpected losses reduces the risk of a banking crisis. The buffers must also be designed in such a manner that the capital can be used as intended. This means that the buffer requirement can either be adjusted by FI or that some parts of the buffer can be used by the banks themselves. If the capital composing the buffers is not available for use in the event of unexpected losses, there is a risk that the bank will lose its financiers if there appears to be a problem, which increases the risk of a banking crisis.

¹⁰ See the memorandum, *FI:s tillsyn över bankernas beräkningar av riskvikter för företagsexponeringar*, May 2016 (Ref 15-13020), FI. An English translation is available at www.fi.se.

¹¹ Over the past six months the average capital ratio decreased from 28.2 per cent to 28.0 per cent. The average capital requirement also decreased from 24.6 per cent to 24.4 per cent. This change is due to some risks that were previously covered by Pillar 2 now being reflected in the higher risk-weighted assets in Pillar 1. As whole and in nominal terms, the major banks' capital requirements remained relatively unchanged.



Note: Unweighted averages for major Swedish banks' consolidated situations and the mean of the 50 largest European banks according to EBA Risk Dashboard.



Note: Refers to calculation according to transition rules. The minimum requirement refers to the level proposed in the European Commission's banking regulatory package. The mean for European banks refers to the 50 largest banks according to EBA Risk

FI determines the additional capital requirements in Pillar 2 based on the authorities granted by the law. Therefore, capital in Pillar 2 given certain circumstances can function in part as a buffer rather than a minimum requirement. From this perspective, a large percentage of the total capital requirement of the major Swedish banks consists of buffers.

FI weighs in different aspects than the banks when determining the size of the capital buffers. Due in part to its macroprudential assignment, FI places considerable focus on systemic risk for the economy at large that could be caused by the banks' operations. This perspective is not as prevalent among individual banks. FI would like the banks to be able to manage stress without being forced to adapt their operations to such an extent as to introduce large, negative effects for other parts of the financial system and economy, for example by sharply reducing their lending. The banks, in turn, have a greater focus on having buffers to protect their financiers from losses. This is one reason why FI often requires higher capital buffers than what the banks would hold on their own accord.

THE CAPITAL REQUIREMENTS ARE CHANGING

The requirement on bail-inable debt, which is called the minimum requirement for own funds and eligible liabilities (MREL), enters into force on 1 January 2018 (this change is described in more detail under *Bank funding*).¹² In addition, the regulation for capital adequacy is being discussed by both the EU and the Basel Committee. This means that the conditions surrounding the design of the capital requirements will change. Structural changes on the market, such as Nordea's plans to move to Finland, can also affect the application of the requirements.

The European Commission's regulatory banking package¹³ will change EU regulation, including the capital requirements. Both the design of the capital requirements and the tools that are available for supervisory authorities to manage e.g. systemic risk could change. As a result, both the total capital requirement and the percentage of buffer requirements could change.

In addition, the Basel Committee has also been discussing the implementation of limits on the internal models and a floor for risk-weighted assets (see *Basel negotiations continue*). These proposals may result in an increase in the level of the risk-weighted assets and thus the minimum requirement. If the current buffer requirements (which are set in per cent) do not change, this will result in an increase in the total capital requirement since the buffers are based on the risk-weighted assets.

Finally, a move of Nordea's Head Office to Finland from a purely formal perspective means that foreign companies will constitute a larger share of the Swedish banking market. This will make it even more important for FI to cooperate with foreign supervisory authorities to

12 For more information, see the joint report to the Government, *Samspel mellan regelverket om kapitaltäckning och krishantering*, April 2017 (FI Ref. 17-6857, RGR 2017/210), FI and the Swedish National Debt Office, and "Krav på nedskrivningsbara skulder ska hantera banker i resolution" in *Stabiliteten i det finansiella systemet*, May 2017 (Ref. 17-8802), FI. English translations are available at www.fi.se.

13 For more information, see "EU-kommissionens bankpaket förändrar spelplanen" in *Stabiliteten i det finansiella systemet*, May 2017 (Ref. 17-8802), FI. An English translation is available at www.fi.se.

ensure that capital and liquidity requirements are sufficient and adapted to the risks present in the Swedish market.

FI's work to design and apply the capital requirements is based on four principles. The first is that the capital requirements should be risk-based. This means that the requirements should reflect the underlying risks taken by the banks. If a bank changes its operations in such a manner that its risk changes, this should be reflected in the capital requirements. The second is that the capital requirements should be transparent. FI has chosen to be more open and clearer about its calculation of Pillar 2 capital requirements than the financial supervisory authorities in many other countries. The third principle is that the capital requirements should contain buffers that can be used as needed. Finally, it is important that the banks' capital requirements are able to counteract risks for the economy, i.e. systemic risk. The current capital requirements for the major banks are to a large extent buffers, and a large percentage of these buffers are intended to manage systemic risk in the Swedish banking system.

FI believes there is a future need to analyse the design and application of the capital requirements due to the new EU regulations for capital adequacy, the new Basel standards and even structural changes such as Nordea's plans to move its Head Office. This analysis needs to take into account the interplay between different types of changes.¹⁴ Then, based on the principles of the capital requirements, FI can design capital requirements that contribute to a stable financial system that is characterised by a high level of confidence.

Basel negotiations continue

Following the global financial crisis in 2008, a large number of new regulations were introduced to rectify the problems that emerged during the crisis. The Basel Committee is discussing, for example, proposals on introducing limitations to the internal models and a standardised floor for the risk-weighted assets (i.e. limitations on how low the risk weights and the risk-weighted assets may be). This oversight would encompass several different types of risks and entail extensive changes to market risk, operational risk and credit risk. One objective of the revised Basel standard is to ensure that the capital requirements are risk-based, simple and comparable.

Much of the discussion has focused on the design and calibration of the floor for the risk-weighted assets. This is a particularly complicated matter since the banking system varies considerably between countries, which has different consequences. Before the new standards can be applied in Sweden, they need to be negotiated and implemented within the EU.

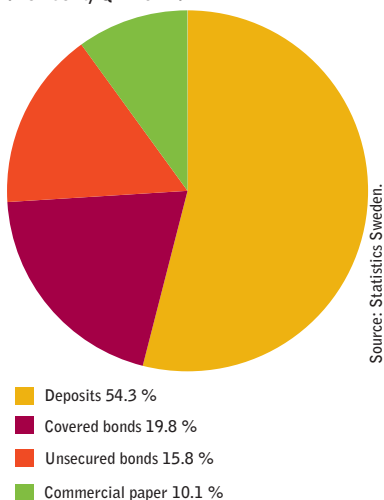
BANKS' FUNDING

Swedish banks have a funding deficit

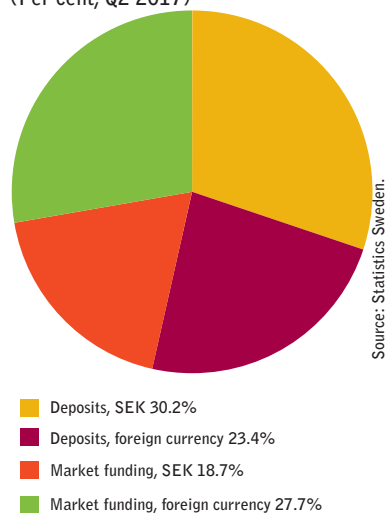
Major Swedish banks lend more than what can be financed through deposits. This is in part because Swedish households largely invest in shares, funds and pension solutions that are outside the banks' balance sheets instead of saving in bank accounts. This means that it is more difficult for Swedish banks to fund their lending through deposits,

¹⁴ To complicate the matter, the three changes have different schedules, which from a practical point of view means that there may be a need for temporary solutions.

20. THE BANKS' FUNDING
(Per cent, Q2 2017)



21. HALF OF THE BANKS' FUNDING IS IN FOREIGN CURRENCY (Per cent, Q2 2017)



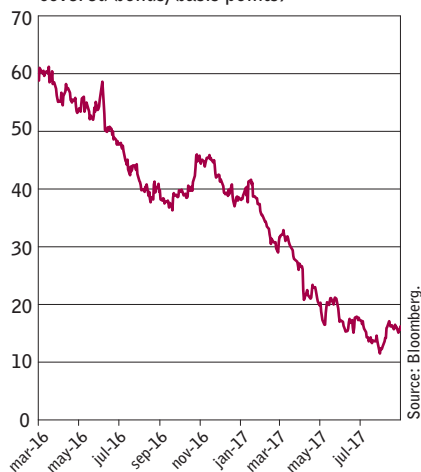
which in turn results in a deposit deficit. Banks fund this deficit, for example, by issuing covered and unsecured bonds as well as commercial paper (Diagram 20). Major Swedish banks therefore have a higher share of market funding than the average for European banks.

Funding in foreign currency is natural

A bank decides how it will fund its assets by weighing risk against cost. Approximately half of the major banks' total funding is in SEK, in terms of both deposits and market funding, and the rest is in various foreign currencies (see Diagram 21). Since the major Swedish banks have a considerable share of their operations in other countries, it is natural for them to have both lending and funding in currencies other than SEK, but they also fund assets in SEK with foreign currency. This is done by issuing securities in foreign currency, primarily USD and EUR, which can then be converted into SEK through currency swaps.

Currency funding can reduce risks in that it spreads the borrowing between different actors in different geographic markets. This means that the major Swedish banks are not as dependent on a few lenders or a specific geographic market. Currency funding can also be more inexpensive, which means that the major Swedish banks can fund their operations for a lot lower cost, but it can also introduce a risk in that foreign investors can be affected by shocks not directly linked to the Swedish banks or Swedish conditions in general. The major banks' foreign market funding therefore could mean that shocks on the international capital markets may spread to the major Swedish banks and make it more difficult to secure funding even though confidence in the banks' economic position has not deteriorated.

22. LOW FUNDING COSTS FOR MORTGAGES (Average credit margin for five-year covered bonds, basis points)



Note: Average credit margin (asset-swap spread) for five-year benchmark bonds. The diagram is based on data for the major banks' Swedish mortgage institutions.

High level of confidence in Swedish banks

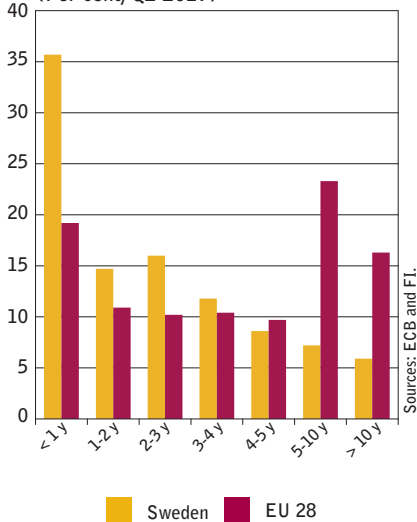
In order for banks to have continuous access to funding, both depositors and investors need to have confidence in them. If this confidence were to wane, one or more banks may experience problems in generating funding, which would in turn mean that the bank would experience difficulties helping customers with new loans and other financial services. In the long run, a loss of confidence could introduce problems for stability in the Swedish financial system as well as the real economy. Swedish banks currently have good access to market funding, and the funding cost for covered bonds in SEK continued to be low in Q2 2017 (Diagram 22).

Deposits in SEK derive primarily from Swedish households and small companies that are largely covered by the deposit insurance. This reduces the risk for bank-runs during a confidence crisis. Deposits are therefore normally considered a stable form of funding. However, the banks' funding also consists to a large extent of deposits from large companies and other financial institutions that are not guaranteed by the State. Deposits from large companies and other financial institution also tend to be volatile and are affected by the short-term investment alternatives that are available. This means that lending from companies and institutions is often less stable. Another important factor is greater digitalisation, which has simplified the transfer of deposits between various market participants. This may mean that household deposits will also become more transitory in the future.

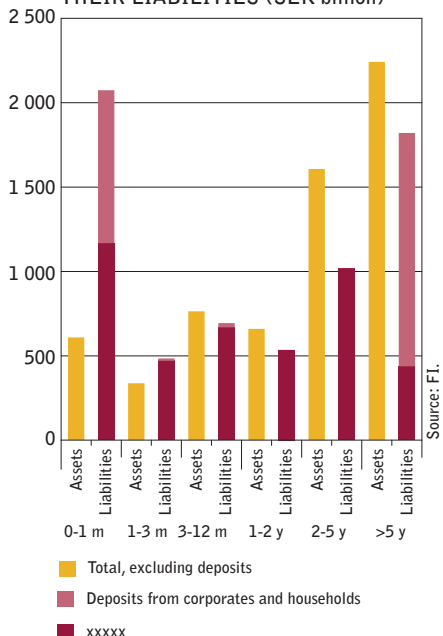
MREL requirements affect banks' funding structures

The MREL requirement on bail-inable liabilities goes into effect on 1 January 2018 and requires systemically important banks to hold a certain level of equity and liabilities that can be written down during reso-

23. BANKS' LIABILITIES HAVE SHORT MATURITIES (Per cent, Q2 2017)



24. BANKS' ASSETS HAVE LONGER MATURITY THAN THEIR LIABILITIES (SEK billion)



Note: Deposits covered by the deposit insurance are assumed to be stable funding, while deposits not covered by the deposit insurance are considered to be volatile. Mortgages are assumed to have an average maturity of seven years. Refers to Q2 2017.

lution.¹⁵ The percentage of the MREL requirement that shall consist of liabilities is determined by the size of the capital requirements that are expected to apply to the bank after a resolution. According to the method used by Swedish National Debt Office, the level of capital requirements, i.e. the recapitalisation amount, must be covered by bail-inable liabilities. These liabilities must be pledged, i.e. less prioritised than normal liabilities. The banks may gradually build up the volume of required pledged liabilities until 2022. This means that the banks will need to issue large volumes of new, pledged MREL instruments in the next few years, which in turn will lead to a change in the banks' current funding structures. The MREL instruments will to some extent replace existing, unsecured funding. The MREL requirement is decided by the Swedish National Debt Office, but FI supervises that the banks meet the requirement and monitors how the requirement affects the banks' funding.¹⁶ FI considers the MREL requirement to strengthen financial stability since it increases the possibility for letting shareholders and lenders carry the losses when a bank is entered into resolution. This reduces the risk that losses will affect taxpayers.

MATURITY TRANSFORMATION CREATES VULNERABILITY

The maturity of the banks' liabilities is generally shorter than the maturity of their assets. This is because savers may withdraw their money with little advance notice and borrowers may keep their loans for a longer period of time. Maturity transformation is a central part of the economic added value that banks can provide, but it is also a vulnerability since it means that the banks expose themselves to refinancing risks. The banks' refinancing risks are largely dependent on how well the maturities of the liabilities and the capital tie-up of the assets match one another. A high degree of maturity matching means lower refinancing risks, but a banking system without maturity transformation is not desirable. Maturity matching offers savers liquid savings forms and borrowers loans with long maturities.

Banks' assets have longer maturity than their liabilities

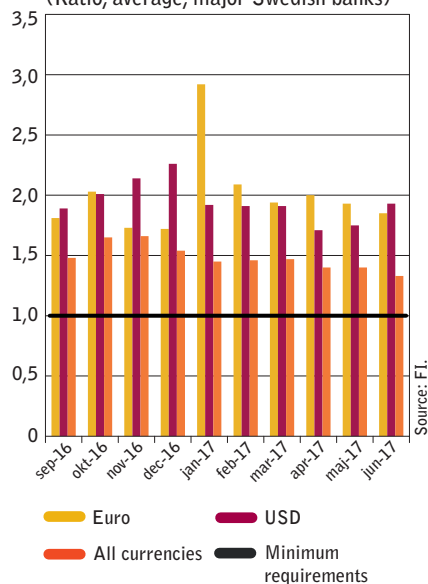
The average maturity for the market funding of the major Swedish banks is relatively short in a European comparison (Diagram 23). The maturity of many of the major Swedish banks' assets is significantly longer. This means that banks' liabilities have a shorter average maturity than the assets they must fund (Diagram 24).¹⁷

15 For more information, see "Krav på nedskrivningsbara skulder ska hantera banker i resolution" in *Stabiliteten i det finansiella systemet*, May 2017 (Ref. 17-8802), FI. An English translation is available at www.fi.se.

16 See the joint report to the Government, *Samspel mellan regelverket om kapitaltäckning och krishantering*, April 2017 (FI Ref. 17-6857 and RGR 2017/210), FI and the Swedish National Debt Office. An English translation is available at www.fi.se.

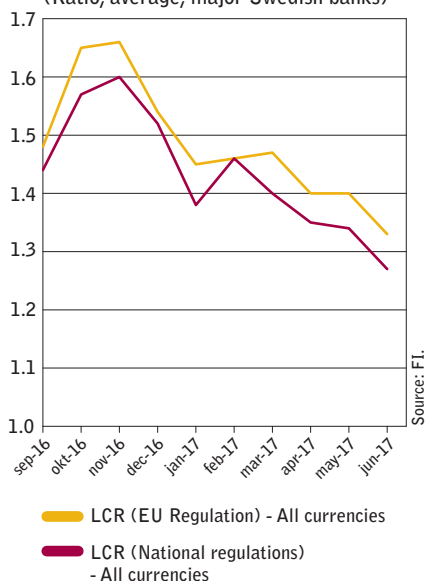
17 The diagram is based on the contractual maturities of the assets and liabilities, which required a number of assumptions. One of these assumptions was related to the banks' deposits, which often do not have a defined maturity. In reality, the contractual maturities do not always agree with the actual flows that can arise during a crisis. For example, the banks may need to quickly sell some liquid assets which according to the contract have a long maturity. The diagram thus overestimates the funding risks. On the other hand, there is no guarantee that the bank will be able to terminate loans even if the maturity has expired according to the contract if the borrower is not able to borrow the same amount from another bank. For this perspective, the diagram rather underestimates the funding risks.

25. BANKS HAVE GOOD LIQUIDITY COVERAGE RATIOS (Ratio, average, major Swedish banks)



Note: The minimum requirement refers to the liquidity coverage ratio for all currencies according to Commission Delegated Regulation (EU) 2015/61.

26. COMPARISON BETWEEN PENDING LCR REQUIREMENTS AND CURRENT LCR REQUIREMENTS (Ratio, average, major Swedish banks)



Note: Refers to a comparison between the current national regulation for LCR for all currencies in aggregate and the pending EU Regulation for LCR.

BANKS FULFIL REQUIREMENTS ON LIQUIDITY RESERVES

Liquidity and refinancing risks create a vulnerability in the financial system. It is therefore important for the banks to hold liquidity reserves that are sufficient for managing short-term stress. Liquidity shortages can arise in several ways, but essentially are unexpected outflows that are greater than the bank can cover with new funding at a reasonable cost or by disposing of liquid assets. In order to strengthen the banks' resilience to shocks to their funding, the Basel Committee established a standard in 2010 for banks' liquidity reserves to ensure the reserves are sufficient and of high quality. This requirement is called the Liquidity Coverage Ratio (LCR). According to this ratio, banks must hold a liquidity reserve that corresponds to a minimum of 30 days' net cash outflows in stressed conditions. This reserve may then be drawn upon, following consent from FI, in the presence of a stress that affects liquidity.

The largest Swedish banks meet the current requirement on liquidity coverage as laid down in the national regulation of LCR.¹⁸ There will be a regulatory change on 1 January 2018. All banks subject to the Capital Requirement Regulation (575/2013/EU) must at this time instead have full liquidity coverage of at least 100 per cent in accordance with an EU Regulation that applies to credit institutions and securities companies.¹⁹ When this EU Regulation enters into force, the national LCR regulation will be repealed.²⁰

The major Swedish banks meet the forthcoming liquidity coverage capital requirement by a good margin (Diagram 25). The banks' liquidity coverage under the European Commission's delegated act has been slightly higher than the liquidity coverage according to the current national requirement (Diagram 26). One difference between the regulations is that the forthcoming European LCR requirement is only set at a total level, regardless of currency, while the current Swedish requirement also places separate requirements on USD and EUR. The current Swedish LCR requirement is also limited to a smaller group of credit institutions with large balance sheet totals, while the European requirement includes all credit institutions regulated by CRR/CRD.

FI considers it to be important that at least the major banks hold liquidity reserves in EUR and USD since these can be assumed to be more liquid in stressed situations than other currencies. In a crisis situation, large liquidity reserves in EUR and USD can provide more flexibility and be used to cover outflows even in, for example, SEK. To ensure good liquidity management at the banks, FI applies supervision methods within the Pillar 2 framework.

Stable funding limits risks in the long run

In order for the banks to better match the maturities between their assets and liabilities in their entire balance sheet in the long term, the Basel Committee has prepared a measurement, the Net Stable Funding

18 FI's Regulations (FFFS 2012:6) regarding liquidity coverage ratio requirements and reporting of liquid assets and cash flows. Available in Swedish.

19 Commission Delegated Regulation (EU) 2015/61 of 10 October 2014 to supplement Regulation (EU) No 575/2013 of the European Parliament and the Council with regard to liquidity coverage requirement for credit institutions.

20 Given this background, FI published at the end of August a consultation memorandum that proposes the repeal of the national regulations. A decision to repeal the national regulations for LCR was adopted by FI's Board of Directors on 13 November.

Ratio (NSFR). In short, the measurement means that banks must finance assets with a maturity that exceeds one year using liabilities with a maturity that also exceeds one year. The measurement is included in the European Commission’s proposed changes to the capital adequacy regulations, which were announced at the end of 2016. According to the proposal, the changes to the regulations will be introduced in the EU at the earliest in 2019. Negotiations are currently ongoing, which means that the final design of the NSFR requirement within the EU has not yet been decided.

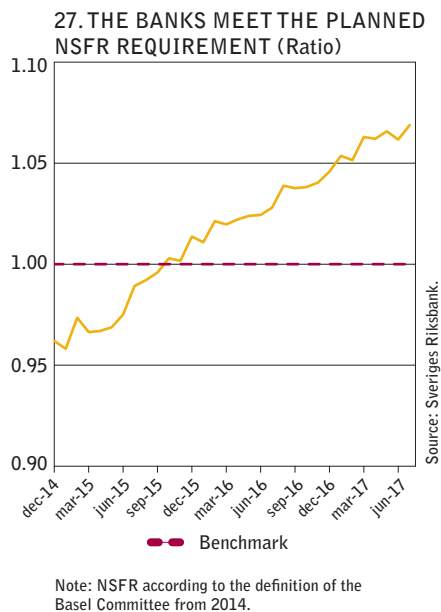
The stable levels of the major Swedish banks’ NSFR have increased on average over time, and the banks are just above the proposed requirement of 1.0 (Diagram 27)²¹. Because the major banks are above the planned requirement, the vulnerability indicator for the liquidity category in the introduction to this section is signalling green.

THE RIKSBANK’S LIQUIDITY ASSISTANCE AS A COMPLEMENT

The banks’ liquidity reserves enable them to withstand exclusion from the wholesale funding market for a period of time. Liquidity reserves at individual institutions also reduce the probability that the state would need to intervene. However, in a more drawn-out, serious scenario, the authorities will probably be involved.

In the event of an extensive systemic shock, it is doubtful whether banks could use their liquidity reserves in the same way as when an individual bank suffers problems. If the financial system as a whole were to suffer a serious shock, there are probably not enough buyers on the market for the securities affected banks would need to sell. The banks may even be forced to become, through their role as market makers, net buyers of bonds and thus become subject to a higher funding need.

In such a situation, liquidity assistance from the Riksbank may be necessary to maintain financial stability. The Riksbank, due to its authority to create a means for payment, plays a central role in counteracting and handling threats against financial stability that derive from disruptions to the supply of liquidity.



New technology, new products, new market participants

Renewal is good – but not unproblematic

Just like in other parts of the economy, structural changes occur on the financial market that affect both producers and consumers. This is a result in part of technological developments and changes in demand and to regulations. New products, new technological solutions and new actors are often positive. They promote greater competition, greater efficiency and help products become both more inexpensive and more in line with customers’ needs. When new companies and products take a larger part of the market, the risks are also changed and redistributed within the financial system, which must be considered and assessed within the supervision work.

Current regulations can sometimes slow the development, which in turn can make the financial system less effective than what it could be. If Swedish

21 How well the banks meet the NSFR depends on the definition that is used. In this report, FI uses a calibration of NSFR that is based on the Basel Committee’s definitions from 2014.

regulation would be or appear to be more restrictive than other countries in this respect, it would be a competitive disadvantage for Swedish companies from an international perspective. Another problem is that existing rules and supervision methods do not always capture the new risks that might arise in terms of both financial stability and consumers.

FI does not have an explicit assignment to promote either technological development or competition on the financial market, but financial regulation with the goal of promoting “well-functioning financial markets” and a high level of consumer protection should not obstruct innovation and greater competition. A market with low innovative capacity, weak productivity growth and a lack of competition is neither well-functioning nor in the interests of consumers.

On the other hand, FI must also take into consideration the risks that may arise – innovation and renewal must not occur at the cost of weaker financial stability or impaired consumer protection. Two examples of such a development are “fintech” and “mortgage funds”. FI will soon publish a report regarding fintech, so only mortgage funds are discussed here.

Mortgage funds

Structural transformation is caused by new technology and new products, but it is also caused by established companies entering new product areas and having an impact on the value chain, i.e. the flow of activities within a company that builds up the value of the product or service being sold. This also affects the risk profile. One example is insurance companies and pension funds that have shown interest in investing directly in mortgages through mortgage funds alongside their traditional role as investors for the covered bonds issued by banks. Such a shift in the value chain in the Swedish mortgage market could mean that non-bank companies could take on a larger role. Similar tendencies can be seen in other countries as well, e.g. the Netherlands, where pension funds and insurance companies are responsible for 11 per cent of the mortgage stock.

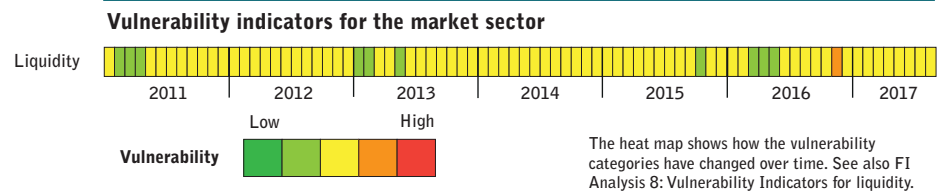
There are several forces driving this development; for example, the current low interest rates are making investors seek alternatives that have a higher return. The current regulations also give companies strong incentives to change traditional business models in different ways to improve profitability.

Such changes in turn have an impact on the financial system. Risks associated with established value chains can decrease, e.g. structural liquidity risks concentration risks and high costs for borrowers due to weak competition. At the same time, the risks associated with the new value chains increase in importance. For example, supervision measures may become less effective and the companies taking the credit risks may not necessarily understand them or have the same interests in long-term commitments as the established actors. A change on the Swedish mortgage market could therefore have both positive and negative consequences, both for the stability on the market and for consumer protection.

From a supervision perspective, there are two aspects that are particularly important. The first is that it is important for mortgage funds to be structured in such a manner as not to expose borrowers to excessive refinancing risk. This means that mortgages should have long maturities and the fund should be closed to withdrawals from investors. In the event of financial stress and low risk appetite among investors, individual borrowers’ positions can otherwise be weakened, but the credit supply on the macro level can also become more procyclical. A new value chain for mortgages also affects the banks’ traditional business models. FI therefore also needs to assess any new strategies or business models.

Stability in the financial markets

The securities markets have been stable the past year and financial stress is currently low. Market liquidity on the fixed-income market is good, but it is difficult to determine how much it could deteriorate as a result of greater stress. Even the financial infrastructure companies are currently judged to be functioning well, but several of the systemically important companies are facing major challenges, in part due to their growing importance in the market and, subsequently, stricter requirements. The manner in which these companies manage risk will require special attention in the future.



The securities markets play an important role in financial stability and provide the channel through which the financial system sets prices and allocates risk and capital. In order for the securities markets to function well and contribute to financial stability, they need to be able to maintain their basic functions even during times of financial stress. Markets that function well can absorb shocks, while markets that function poorly instead can amplify and spread problems and generate large expenses for the real economy.

A secure and efficient financial infrastructure is a prerequisite for functional securities markets. Trading venues, central securities depositories and central counterparties are becoming increasingly important for the financial system, in part due to new regulations such as the requirement on central counterparty clearing. FI considers several financial infrastructure companies to be systemically important.

SECURITIES MARKETS FUNCTION WELL

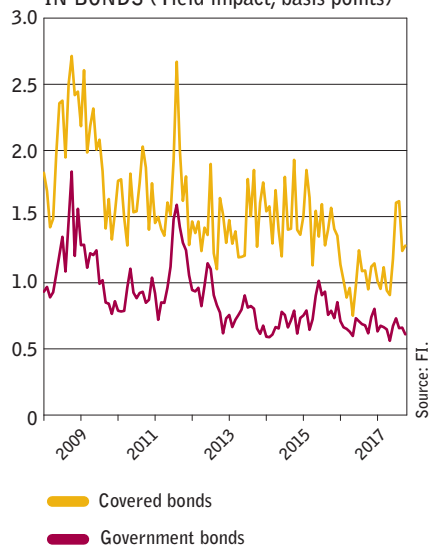
The stress levels on the Swedish securities markets in general have been low the past year (Diagram 28). Financial stress means a shock that could harm the market's ability to effectively fulfil its role as an intermediary between borrowers and lenders and buyers and sellers. High financial stress can also generate large costs for the real economy. Stress levels rose at the end of the year due to temporary movements on the interbank market, which were caused primarily by institutional conditions. The levels have since fallen and are now lower than they were in November of last year (Diagram 28).

Despite the political uncertainty in the past year, the securities market has had stable growth and low price volatility, but low price volatility does not necessary mean that the risks on the securities market are low. Price volatility and uncertainty have historically been positively correlated, but in recent years price volatility has been low despite a period of political uncertainty. Bank for International Settlement (BIS) takes the position that price volatility may no longer function well as an indicator of stress. One explanation could be quantitative easing. When central banks buy government bonds as part of their monetary policy



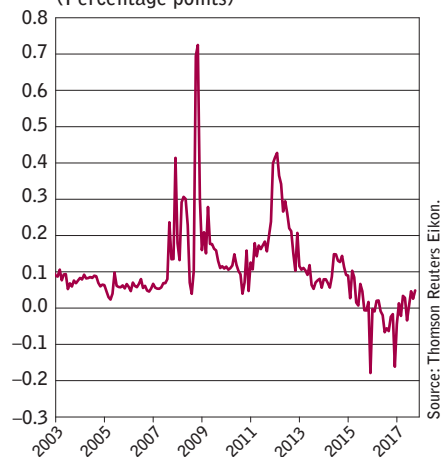
Note: The Swedish stress index has been created by the Riksbank using a similar method to that of the ECB's European stress index. An index of 1 means the highest stress level of all time for all sub-indexes and 0 indicates the lowest stress level of all time.

29. STRONG MARKET LIQUIDITY IN BONDS (Yield impact, basis points)



Note: Average transaction cost per month for the Swedish market for covered bonds and treasury bonds. The transaction cost is measured as yield impact, which in simplified terms is the impact that a transaction has on the market rate. The yield impact in this diagram is an extension of the measurement used in FI Analysis No 3 2015.

30. LOW INTER-BANK SPREADS (Percentage points)



Note: Difference between STIBOR and STINA with a one-month maturity.

measures, this has a calming effect on the market, which reduces both volatility and credit spreads.²² When political uncertainty arises, volatility in the securities markets can also suddenly increase.²³ The fact that the securities markets are currently demonstrating low volatility and low stress levels therefore does not necessarily mean they are resistant to shocks.

FI considers the fixed-income and currency markets to be those that are most systemically important and thus key for financial stability. The fixed-income market plays a central role in the banks' funding possibilities, and it is also important for banks' and other financial firms' possibilities for managing their liquidity and their risks. A shock on the fixed-income market can have serious consequences for banks and other financial firms, which in turn could have serious consequences for the rest of the financial system and – ultimately – the economy.

FI uses several quantitative indicators to assess the situation on the fixed-income market,²⁴ and they are indicating that liquidity on the market for covered bonds and government bonds is good (Diagram 29). Liquidity deteriorated somewhat during the summer when activity levels fell, but it recovered in September. The risks for financial stability in Sweden related to market liquidity are therefore judged to have remained the same. Another indicator that is indicating good market liquidity is the low interbank spread (Diagram 30). This is a sign that the banks have good access to funding.

The stock market is an important source of financing for companies, but it has less of a direct impact on financial stability. It can, however, have an impact on financial firms' investment behaviour, which could make already serious market conditions even worse. When several financial firms take the same action as a result of, for example, falling share prices, this can amplify market fluctuations (companies acting procyclically). These situations occur, for example, when insurance companies and occupational pension institutions reallocate their assets as a result of a fall in the stock market or the design of capital requirements (see *Stability in the insurance sector*).

Under normal market conditions, liquidity on the Swedish stock market is high. In its proposed regulation for capital requirement on institutions for occupational retirement provision, FI's analysis shows that reallocations are not judged to have any material effects on stock market prices if they occur under normal market conditions. The price effects are often greater during crises.²⁵

LIQUIDITY CAN DETERIORATE RAPIDLY IN THE PRESENCE OF STRESS

The securities markets are functioning well, but there are signs that they are lacking resilience to certain shocks. Under stressed conditions, vulnerable markets can cause problems that threaten financial stability. For

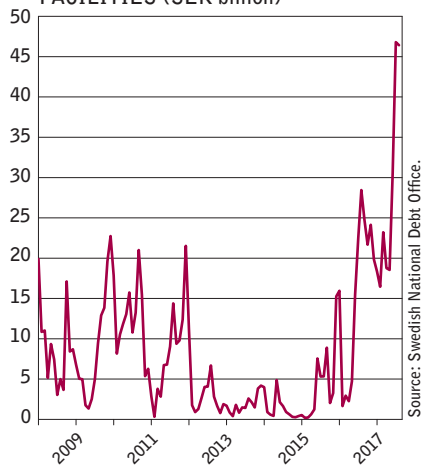
22 H.S. Shin, The bank/capital markets nexus goes global, London School of Economics and Political Science, 15 November 2016.

23 ESRB Risk Dashboard: an overview, 28 September 2017, issue 21.

24 For a description of the indicators, see *FI Analysis 8: Vulnerability indicators for liquidity*, (2017).

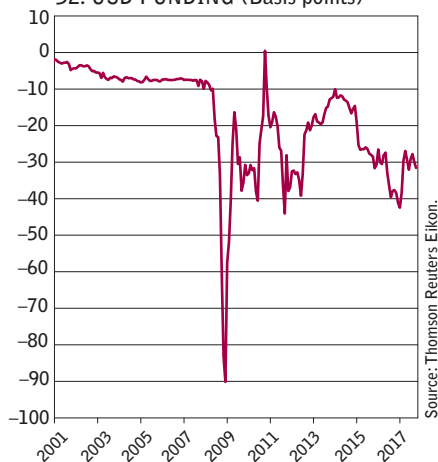
25 Finansinspektionen, *Förslag till kapitalkravsreglering för tjänstepensionsföretag* (Ref. 17-4640), 1 September 2017. A summary is available in English at www.fi.se.

31. HIGH UTILISATION OF THE SWEDISH NATIONAL DEBT OFFICE'S FACILITIES (SEK billion)



Note: The diagram shows how much the market makers use the Swedish National Debt Office's t/n repo facilities.

32. USD FUNDING (Basis points)



Note: The diagram shows the price of a one-year currency swap in USD/SEK. The price is expressed as the interest increment above STIBOR that a market participant gets (or pays) in SEK in exchange for paying (or getting) LIBOR in dollars. This corresponds to the interest rate difference between a LIBOR loan in USD that is swapped to SEK and the STIBOR rate over the same maturity.

example, market makers' utilisation of the Swedish National Debt Office's repo facilities has recently increased considerably (Diagram 31). The fact that this indicator is high is a sign that the money market may need additional support for managing greater demand for secure assets following shocks. This, in turn, can increase the vulnerability for a deterioration in liquidity. One of the reasons that the Swedish National Debt Office's repo facilities are being utilised to such a large extent is that the share of government bonds available for trade has decreased. This is because of the Riksbank's extensive bond-buying programme. The Riksbank owns approximately 46 per cent of the nominal bonds with a maturity of up to 10 years.

The market makers' ability to fulfil their function also affects liquidity on the market. Market makers' costs thus can function as a vulnerability indicator. Due to measures that aim to strengthen banks' resilience, market makers' costs for undertaking risks and financing their trading books have increased over the past few years. These increased costs can make it more difficult for the market makers to manage large flows.

Another indicator that shows signs of a vulnerability is the currency swap market. There has been high demand for USD for several years since it was less expensive to borrow in USD and convert to SEK than to borrow directly in SEK. Since the beginning of the year, however, the cost for this type of financing has increased again, which means the situation has normalised slightly (Diagram 32). Despite a slight improvement, the heat map shows elevated vulnerability when the indicators for liquidity on the financial markets are weighed together. This is an indication that liquidity can rapidly deteriorate in the presence of financial stress.²⁶

SYSTEMICALLY IMPORTANT COMPANIES ARE RESILIENT

The financial infrastructure for payments and transactions with financial instruments is important for financial stability. The financial infrastructure companies make sure that the securities transactions are carried out and settled properly and in a timely manner. The resilience of the financial infrastructure companies is therefore crucial for a stable financial infrastructure. FI considers several companies under its supervision to be systemically important. These are:

- Euroclear Sweden AB – central securities depository. Carries out clearing and settlement of transactions with shares and debt-securities, registers securities and provides securities accounts.
- Nasdaq Clearing AB – central counterparty. Offers central counterparty clearing of financial derivatives, commodity derivatives and repos.
- Bankgirot – clearing house. Conducts clearing of retail payments.
- Foreign central counterparties – EuroCCP (clearing of shares) and LCH Clearnet (clearing of equity and interest rate derivatives), where FI participates in supervision through international supervisory colleges.

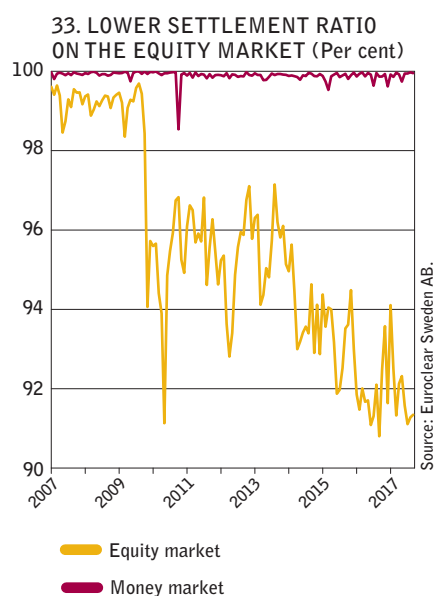
In FI's view, the financial infrastructure firms in Sweden are functioning well and are operationally reliable. This means that the companies meet the requirements placed on them to create procedures for managing risks that arise and that they are resilient to shocks.

²⁶ See *FI Analysis 8: Vulnerability indicators for liquidity, (2017)*.

However, there are some challenges that must be managed. As the infrastructure companies take on a more central role in the financial system and digitalisation increases, cyber risks and information security become more important. There is also an operational risk linked to system changes and upgrades at the companies, for example in conjunction with new regulations. It is also important that infrastructure companies continue to improve their internal governance and control. This applies in particular to areas where central parts of the operations are outsourced to other companies.

Changed conditions for central counterparty clearing

Requirements on central counterparty clearing for interest rate derivatives in SEK traded outside a regulated market were introduced at the beginning of the year. The percentage of cleared transactions therefore continues to be high.²⁷ Clearing of derivatives in SEK can take place in both Swedish and foreign systems. Clearing therefore also occurs outside of Sweden. A large percentage of the derivative instruments are cleared at the London-based central counterparty, LCH Clearnet. Due to the UK's pending exit from the EU, LCH Clearnet will be considered a central counterparty in a third country. This means that a systemically important central counterparty for Sweden will no longer automatically be subject to the rules that apply to central counterparties within the EU. The European Commission has prepared a proposal for stricter supervision of central counterparties in third countries, and the European Securities and Market Authority (ESMA) is the proposed supervisory authority.²⁸ FI considers it to be important to have a supervision agreement in place so FI can participate in the supervision of a company that is judged to be systemically important in Sweden.



ELEVATED RISKS AT CENTRAL SECURITIES DEPOSITORIES

The primary task of central securities depositories is to register securities, provide securities accounts and handle transaction settlement. "Settlement" refers to a transfer of securities from the seller's to the buyer's account, and the matching transfer of payment from the buyer's to the seller's account. In Sweden, Euroclear Sweden AB (Euroclear Sweden) is responsible for settlements of Swedish shares and fixed-income securities. It also provides securities accounts and keeps shareholder registers for affiliated companies. Euroclear Sweden is therefore a central part of the financial infrastructure of Sweden and is necessary for the financial system to function. Well-functioning central securities depositories help create confidence that securities transactions will be carried out in a timely manner even during periods of extreme stress. It is therefore very important for Euroclear Sweden to be operationally reliable in its day-to-day operations.

The Swedish market has historically been characterised by a high settlement ratio.²⁹ Settlement at Euroclear Sweden is divided into an equity

²⁷ See Finansinspektionen, *Stabiliteten i det finansiella systemet* (Ref. 17-8802), 31 May 2017. An English translation is available on FI's website.

²⁸ See <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2017:0331:FIN>.

²⁹ The settlement ratio is based on the number of transactions settled on the agreed day.

market and a money market.³⁰ The settlement ratio on the money market is high, while the settlement ratio on the equity market has declined over a period of several years (Diagram 33). Transactions that are not settled in a timely manner generate higher costs for investors. In order to maintain the markets' efficiency, it is therefore important that market participants help promote timely settlement of securities transactions.³¹

Within the EU, the regulations for the central securities depositories have been tightened, which means in part that Euroclear Sweden must implement system adaptations of existing IT systems for securities settlement (the VPC system) (see *Stricter requirements for central securities depositories*). FI makes the assessment that Euroclear Sweden is thus facing greater operational risk. It is important to ensure that the planned changes to the VPC system are managed in such a manner that the day-to-day operations are not affected and the operational risks are limited. This places heavy demands on internal governance and control.

Stricter requirements for central securities depositories

Central securities depositories hold a systemically important position on the securities markets, and it is important that they have a high level of resilience to shocks. The EU has published uniform regulations for central securities depositories: the EU Regulation on improving securities settlement and on central securities depositories (CSDR).³²

CSDR aims to promote secure, effective and convenient securities settlement with harmonised requirement for the settlement cycle and settlement discipline. CSDR also sets common requirements on authorisation of central securities depositories and supervision of central securities depositories within the EU. CSDR also affects other large participants on the financial market through new reporting requirements and extensive rules for improving and streamlining securities settlement, which is called "settlement discipline". The regulations entail EU-wide incentives and administrative fines in order to promote the timely settlement of securities transactions. According to CSDR, a central securities depository should apply for authorisation no later than 30 September 2017. Euroclear Sweden applied for authorisation on 22 September 2017.

Since CSDR contains significantly more detailed provisions than the currently applicable Swedish regulation, great demands are placed on adaptations by the companies subject to CSDR, for example in the form of system development. In order to meet these requirements, Euroclear Sweden will need to adapt the existing VPC system. This will also affect participants, for example banks that settle securities transactions in the VPC system.

Absence of resolution regulations for central securities depositories

According to CSDR, central securities depositories should have recovery plans. According to the regulation, the competent authority in each

30 It is primarily equity market instruments that are settled on the equity market and interest-bearing instruments, such as mortgages and government bonds, that are settled on the money market.

31 See *Stricter requirements for central securities depositories*. The rules aim to encourage settlement of transactions no later than the intended settlement day to improve and streamline the securities settlement.

32 Regulation (EU) No 909/2014 amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) No 236/2012.

country, FI in Sweden, must ensure that resolution plans for each individual central securities depository are prepared and maintained. FI has determined that this is not currently fully possible since there is no appointed resolution authority to prepare and maintain such plans. Neither is there a regulation regarding resolution of central securities depositories.³³ Because Euroclear Sweden maintains a critical function for the stability of the Swedish financial market, it is very important to have a predictable management of the company in the event of a crisis.

CENTRAL COUNTERPARTY CLEARING – AN IMPORTANT PART OF THE FINANCIAL SYSTEM

A central counterparty's primary assignment is to take over counterparty risks by stepping in as a counterparty to both the seller and the buyer in a transaction. After the most recent financial crisis, central counterparties have gained a key role, in part due to new regulations under which more market participants must clear transactions at a central counterparty. Given the concentration of counterparty risk that arises at a central counterparty, they have therefore become systemically important.

The financial infrastructure is a tightly linked system. A central counterparty, for example, can have several different relationships with other financial companies. These companies, primarily banks, can take on several different roles with a central party. They can both be a clearing member, i.e. a customer, and provide services to the same central counterparty. This interconnectedness introduces a higher risk for contagion effects and an impact on financial stability if one party defaults. If the part that defaults also holds several different roles, the problems can increase since several parts of the system are affected.

If a few companies have multiple critical roles in relation to a central counterparty, concentration risks can also arise. An international analysis of a large number of central counterparties and financial companies' mutual dependence in 2016–2017 shows that the exposures to central counterparties are concentrated to a few companies. For example, 7 per cent of all clearing members represent 75 per cent of the financial resources (initial collateral and contributions to default funds). The analysis also showed that 88 per cent of the total financial resources are concentrated to the ten largest central counterparties.³⁴

In markets like the Swedish market, which has a few major companies, the concentration is even larger. In Sweden, a small per cent of participants represent approximately half of Nasdaq Clearing AB's financial resources (initial margin collateral and default fund contributions).

As the importance of central counterparties increases in the financial system, it becomes more crucial to understand and analyse mutual dependencies and concentration risks. FI will therefore continue to follow the development to be able to better assess the risks for the financial infrastructure and therefore financial stability.

33 In November 2016, the European Commission announced a proposed law for recovery and resolution that affects central counterparties. There is no corresponding proposal for central securities depositories.

34 Analysis of Central Clearing Interdependencies, BIS, FSB, IOSCO, 5 July 2017.

Liquidity risks in central counterparties

Central counterparties' operations can give rise to large credit and liquidity risks.³⁵ Liquidity risks at a central counterparty can arise for several reasons, for example in conjunction with the default of a participant. One example is that collateral must be paid by the central counterparty to non-defaulting participants because payment cannot be received from the defaulting party. Risks may also arise because the central counterparty must repay margin collateral in the form of cash and cash equivalents to non-defaulting parties in conjunction with reduced margin requirements. Liquidity risk can also arise in conjunction with the central counterparty's settlement commitments for the defaulting party. Liquidity flows are created when the central counterparty must step in instead of the defaulting party to pay non-defaulting participants or when the central counterparty must execute purchases to cover delivery failure of an underlying product on behalf of a defaulting participant.

Another reason why liquidity risk can arise is if a provider of cash and cash equivalents does not fulfil its commitment, for example a bank that suddenly does not have access to its credit limit or a repo counterparty that does not deliver or experiences problems getting back invested funds. Liquidity risk can also arise if a service provider does not fulfil its commitments, for example through a payment system or a settlement system that does not execute payments or deliver in an orderly manner. A custodian bank that delays or complicates access to assets it holds can also be another cause. Regardless of the cause of the liquidity risk, the result is that a central counterparty may not have sufficient liquid resources, which could make it difficult for the central counterparty to execute services and conduct business.

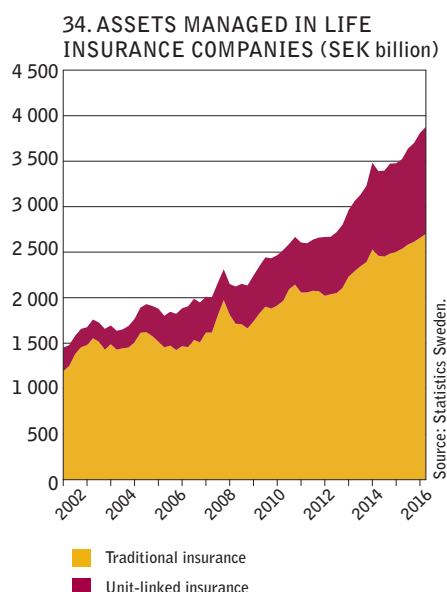
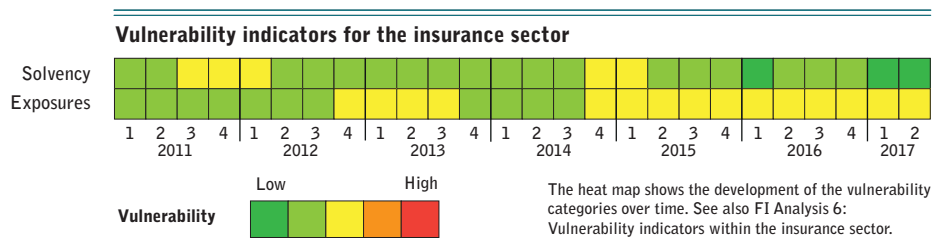
According to the EMIR regulation³⁶, ESMA must conduct annual stress tests to evaluate the central counterparties' conditions for handling an unfavourable developments on the market. The stress tests for 2017 have not yet been completed but they include tests of liquidity risk. They also include tests of risks that can be related to losses at central counterparties due to several participants not fulfilling their obligations at the same time as there is a change in market prices.

35 *Liquidity risk* refers to the risk that a central counterparty's liquid resources are insufficient to meet its payment commitments.

36 Regulation (EU) No. 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and transaction registers.

Stability in the insurance sector

The financial position of Swedish life insurance companies is currently strong. Growth in the stock markets has counteracted the negative effect of low interest rates. In the short-term, falling share prices would have the greatest negative impact on the companies' financial situation. In the long-term, continued low interest rates could become a significant challenge due to greater vulnerability and the risks that follow from underestimated pension commitments. In a scenario where low interest rates persist for a long period of time and asset prices fall, solvency issues may arise, which has a negative impact on financial stability.



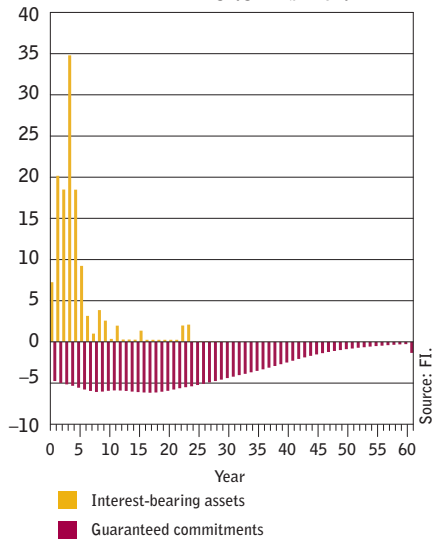
The impact that insurance companies and occupational pension institutions have on financial stability is primarily linked to their investment behaviour. Life insurance companies with traditional management in particular invest largely in assets that do not match the risk profile of their commitments in terms of maturity and sensitivity to market fluctuations. If a life insurance company's financial strength deteriorates, for example due to a sharp fall in share prices, it may need to reduce its risks by better matching the maturities of its assets and commitments. In order to do this, it will be forced to sell risky assets, for example shares, and buy interest-bearing securities with long maturities. If several companies simultaneously apply this same strategy, it could amplify the market fluctuations and deepen a financial crisis. This is called *procyclical behaviour*.

IMPROVED RESILIENCE AMONG LIFE INSURANCE COMPANIES

Insurance companies in Sweden manage assets totalling more than SEK 4,500 billion. These assets consist primarily of interest-bearing investments and shares. Life insurance companies manage the majority of them, just under SEK 4,000 billion. Approximately three-fourths are in life insurance operations with traditional management and the rest are in unit-linked insurance operations (Diagram 34). Unlike savings in unit-linked insurance, where the policy holder is responsible for the investment risk, traditional management companies are responsible for managing both the assets and the risks so that the guaranteed commitments can be met.

The commitments of life insurance companies are largely future pensions and therefore have long maturities. In traditional management, these are covered to a great extent by interest-bearing assets with maturities that on average are significantly shorter. One underlying reason for this mismatch is the limited supply of long-term bonds on the Swedish market. Differences in maturities can be illustrated by compiling future expected

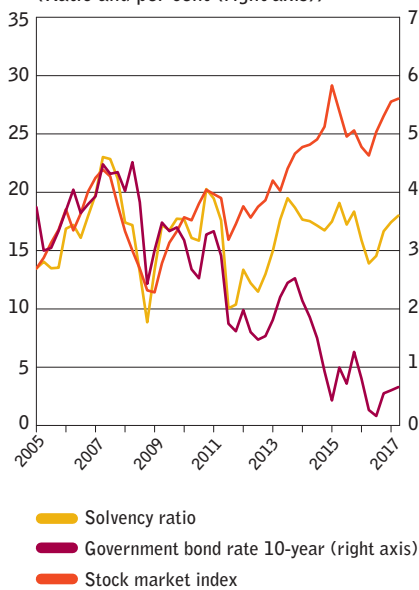
35. MISMATCH BETWEEN ASSETS AND LIABILITIES (SEK billion)



Note: Expected future cash flows from interest-bearing assets and guaranteed pension commitments for a sample of firms participating in Finansinspektionen's investigation into risks resulting from long-term low interest rates in 2017.

Source: FI.

36. STABLE SOLVENCY RATIOS (Ratio and per cent (right axis))



Note: Solvency ratio for life insurance companies that still use the Solvency I regulations.

Sources: FI and Thomson Reuters Eikon.

cash flows (Diagram 35). The mismatch between assets and commitments in traditional management therefore exposes the companies to interest rate risks. Because the commitments in general have longer maturities, their value increases more than the value of the assets when market rates fall, which weakens solvency. In the past few years, this has been the greatest challenge facing life insurance companies.

Despite falling interest rates, the financial position of life insurance companies has been stable. The negative impact from low interest rates has been countered by positive developments in the stock markets. The solvency ratio for companies that primarily offer occupational pension, and therefore still apply the Solvency I regulation, has been stable in recent years (Diagram 36). Companies that offer both life insurance and occupational insurance, and thus apply the Solvency II regulation as of 2016, are also showing stable solvency for this short period. Their resilience was strengthened somewhat in 2017, which has been confirmed by FI's vulnerability indicators.³⁷

The negative impact of falling interest rates was also limited by rules on how liabilities are to be valued. For guaranteed commitments with long maturities, companies can apply a macroeconomic assumption (a constant, long-term Ultimate Forward Rate (UFR)), which diminishes the effect of falling long-term market rates. This counteracts procyclical behaviour in the short term and both creates stability and increases the companies' possibilities for pursuing a long-term investment strategy. However, this assumption also introduces a risk that the debt will be undervalued if actual market rates remain below the assumed UFR for a long period of time. If provisions of capital are too small as a result of this, the companies may experience solvency issues in the long run and, in a worst-case scenario, have difficulties meeting their future pension commitments.

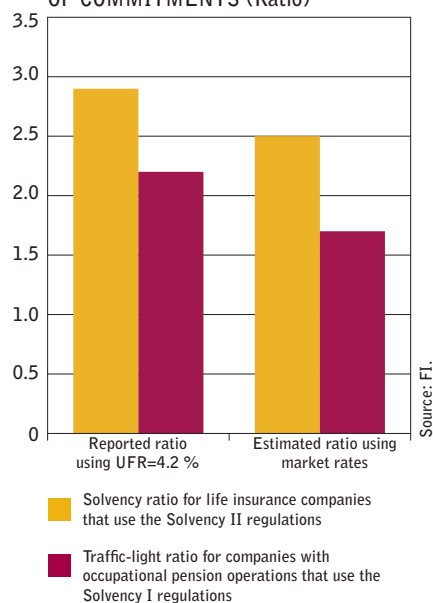
In the short-term, falling share prices would have the greatest negative impact on the companies' financial situation, primarily due to their large holdings of shares. Stress tests and other supervision activities, however, show that the companies can meet the capital requirement even given sharp falls in asset prices, and they thus could withstand further price falls before the promised pensions are threatened. Even though the resilience of the life insurance companies appears to be relatively high, an unfavourable scenario could introduce risks to financial stability. Some of FI's indicators related to liquidity on the financial markets, including the fixed-income market, are showing elevated levels of vulnerability, and the vulnerabilities have increased in recent years (see *Stability in the financial markets*). If life insurance companies need to reduce their risks by selling risky assets and buying interest-bearing securities, this could introduce problems on the fixed-income market and have a negative impact on financial stability in the short term. The effects could be quite large in a stressed situation if market liquidity is low.

GREATER VULNERABILITY IN THE LONG RUN

In the long run, a scenario with persistent low interest rates could mean greater risk. This is because the model assumption of a constant, long-term UFR might underestimate the pension liability. The economic risk that arises can be illustrated by estimating the financial strength as the relationship between own funds and capital requirements using market

³⁷ See *FI Analysis 6: Vulnerability indicators in the insurance sector (2016)*.

37. MODEL RISK IN THE VALUATION OF COMMITMENTS (Ratio)



rates instead of the long-term equilibrium rate as in the current regulations. According to FI's calculation, the average ratio would decrease but still exceed one, which means the capital requirements are met (Diagram 37). However, the spread between the companies is large. Several would have a ratio of less than one, which means that they would not meet the capital requirements if market rates are used when valuing the commitments.

Even if the above calculations do not correspond to the legal capital requirement, they reflect the real economic risks. In a scenario with both persistent low interest rates and falling asset prices, there is a risk that solvency problems will arise (see *Investigation into risks resulting from long-term low interest rates*). This could force several companies to simultaneously reduce their share of risky assets in exchange for interest-bearing assets. The problems could then be amplified, which in the long run could threaten financial stability.

By assuming a long-term equilibrium rate, economic reality is not truly reflected in the valuation of the companies' commitments. This can make it difficult for both the companies themselves and supervisory authorities to assess the financial strength. There is a risk that problems, for example in the form of overly high financial guarantees or excessive financial risk-taking, could be hidden for a long time. This may mean that FI can first intervene when it is too late to transfer assets and liabilities to another insurance company that can meet the commitments.

Investigation into risks resulting from long-term low interest rates

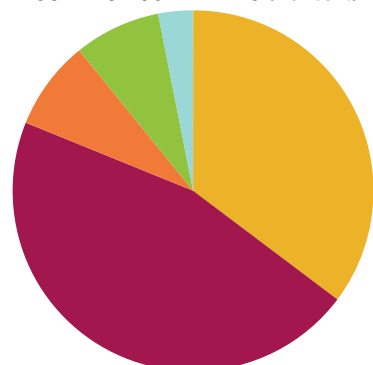
In 2017, FI conducted a new investigation into risks resulting from long-term low interest rates and focused on mid-size and small insurance companies. The objective was to analyse the economic risks for pension savers and policy holders and evaluate the companies' conditions for meeting both their commitments and the solvency requirements in a future scenario with interest rates at zero. Therefore, no future return has been assumed in the analysis when reinvesting interest-bearing assets.

The results show that the companies meet their commitments in a zero-interest-rate environment without or with a very low future return on other non-interest-bearing assets. In order for them to also meet the solvency requirement and be able to pay returns or pension supplements requires on average a slightly higher annual return on other, non-interest-bearing assets of up to 1.5 per cent. In summary, the companies have the ability to handle continued low interest rates. However, vulnerability for other risks, primarily falling asset prices, increases in such a scenario. If, for example, the stock markets were to develop unfavourably at the same time as the market rates remain low, the companies may experience solvency problems.

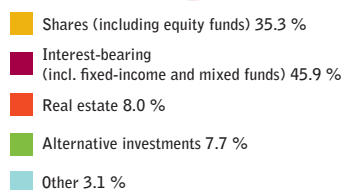
GREATER INTEREST IN ALTERNATIVE ASSETS

The insurance companies' strong financial position has enabled them to invest in a high percentage of assets with high risk. From an international perspective, Swedish companies have a relatively large percentage of shares. This is due in part to the limited supply of long-term bonds, but also often to an intentional investment strategy. A larger share of risky assets has historically resulted in a higher return in the long run,

38. INVESTMENTS OF LIFE INSURANCE COMPANIES (Per cent)



Source: FI.



Note: Life insurance companies' investments classified by the underlying exposures, according to the definition in Finansinspektionen's investigation into the risks resulting from greater investments in alternative assets in 2017. As per 30 June 2017.

but it is a strategy that requires a strong financial position in order to be able to handle downturns in asset prices.

In addition to investments in listed shares and bonds, insurance companies have become more interested in other types of assets over the past few years. FI's investigation in the spring of 2017 noted that the percentage of investments in alternative assets³⁸ in life insurance companies with traditional management was approximately 8 per cent (Diagram 38). According to the companies in the investigation, this percentage is expected to increase in the future. These investments in alternative assets can have several objectives. For example, infrastructure investments with long maturities and stable cash flows can improve matching to commitments. In a low interest rate environment, where the return on interest-bearing investments is low and share prices are historically high, other types of assets can also improve the possibilities for future return.

Greater investments in alternative assets, however, can also entail risks. These investments share several features, for example that they are not listed, have poorer liquidity and transparency and to a greater extent are associated with other types of risks than traditional asset classes, such as listed bonds and shares. If these risks are not managed correctly, it may be difficult to realise assets during a crisis, or companies may be forced to sell at values well below what is expected. This can affect the companies' solvency and investment behaviour and thus also financial stability.

RISK-BASED CAPITAL REQUIREMENTS IMPROVE INCENTIVES

The risk that procyclical investment behaviour by the companies will affect financial stability is also affected by the design of the capital requirements. Solvency II, the regulation that applies to insurance companies as of 2016, uses significantly more risk-based capital requirements than before. This means that the solvency capital requirements increase the greater the market risks, i.e. the more the companies have invested in shares and other risky assets. Reflecting the risk in investments in this manner creates incentives for the companies not to take greater risks than what they can handle based on their financial strength. In FI's response to the Government regarding its assignment to investigate a capital requirement regulation for institutions for occupational retirement provision³⁹, FI proposes that the market risks for these institutions also be reflected more in the capital requirements (see *FI proposes a capital requirement regulation for institutions for occupational retirement provision*).

FI proposes a capital requirement regulation for institutions for occupational retirement provision

The Government intends to propose a regulation for a new type of company that will be called **institutions for occupational retirement provision**. These companies solely provide occupational pension benefits. How the new

³⁸ Defined as Private Equity and other alternative funds, unlisted securities, infrastructure and other alternative assets.

³⁹ Finansinspektionen, *Förslag till kapitalkravsreglering för tjänstepensionsföretag* (Ref. 17-4640), 1 September 2017. A summary is available in English at www.fi.se.

regulation will be designed is important for employers and beneficiaries as well as financial stability in Sweden. Around 70–80 per cent of the pension capital currently managed by life insurance companies and occupational pension funds will in the future probably be managed by institutions for occupational retirement provision. At the end of 2016, these assets had a value corresponding to approximately SEK 2,800 billion.

In the spring, the Government tasked FI with an assignment to develop a national capital requirement regulation for institutions for occupational retirement provision. FI submitted its report to the Government on 1 September. In accordance with the Government's instructions, FI proposes a two-tier capital requirement regulation, where different supervisory measures come into effect depending on which level an institution for occupational retirement provision fails to meet.

The first level is a standardised capital requirement that sets a minimum requirement. When this level is not met, the company's ability to meet its commitments is threatened. If the situation is not quickly rectified, FI may withdraw the company's authorisation and the operations are transferred or wound down. The second level is a risk-based capital requirement and is in addition to the standardised requirement. The exact design will be determined later after the Government has announced its proposed law proposal and FI has begun work on the draft regulation.

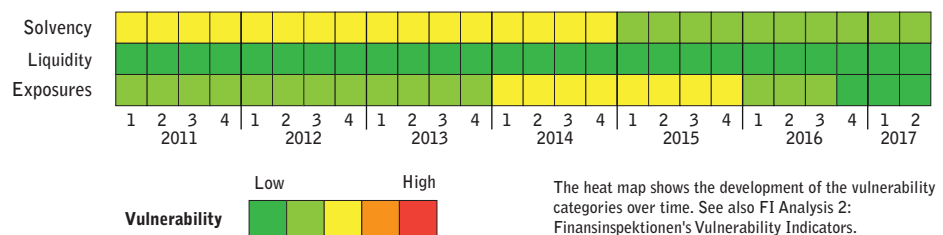
One important difference from FI's current supervisory tool, the traffic-light, is that a risk-based requirement will be laid down by law. This gives FI better possibilities for taking action if a company does not meet the requirement. However, a breach of the risk-based capital requirement will entail a milder intervention than a breach of the standardised requirement. A company that does not meet the risk-based requirement must restore its capital level within a reasonable period of time. In relation to the standardised requirement, the risk-based requirement is a buffer to absorb shocks. It allows companies the room to recover on their own under FI's oversight. This applies in particular if the requirement is breached due to large falls in asset prices during a financial crisis. In such a situation, there are no grounds for forcing companies to redistribute their asset portfolios since the crisis that the requirement is intended to cover has already occurred. If many undertakings simultaneously reallocate large parts of their portfolios between, for example, shares and treasury bonds, this could lead to procyclicality and amplify the fall in prices, which is to the benefit of neither the beneficiaries nor financial stability.

A central issue that affects the risk-based capital requirement is where to set the level of protection, or more specifically what is the highest acceptable risk of beneficiaries not receiving the full amount of their guaranteed pensions. On the other side of the scale is the flexibility to take financial risks in order to offer larger pensions through higher returns. The establishment of the protection level is of such fundamental importance that it should be set by the legislator. FI has therefore not submitted a proposal in its response to the Government. However, FI makes the assessment that a risk-based capital requirement along the lines of the traffic-light is a reasonable starting point. A lower level of protection could potentially have a negative impact on the protection for beneficiaries. A higher level could improve FI's possibilities for identifying institutions that could be susceptible to problems. Too high of a level of protection could result in lower pensions in the long run since companies may lower the risk in their asset portfolios. FI also takes the position that such a reaction is not justified. The risk-based requirement is a buffer to absorb shocks. It is not in the interest of the beneficiaries for strong companies to reduce their financial risks. This lowers the expected return, which can result in lower pensions. FI therefore does not expect strong companies to reallocate their assets when the requirement is introduced.

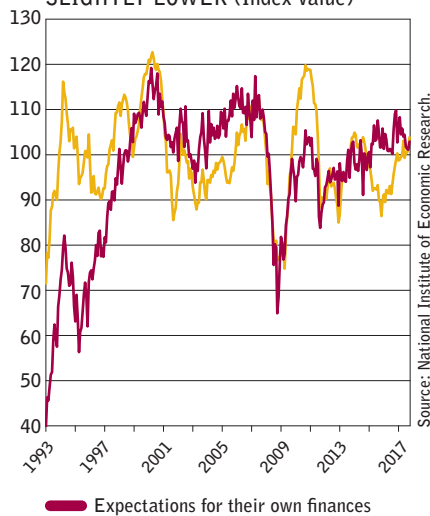
Household and corporate debt

Lending to households and non-financial companies is continuing to increase rapidly. House and property prices have also increased sharply over a long period of time. The macroeconomic risks associated with high household debt continue to be elevated, primarily because many mortgagors have a high level of debt in relation to their income or the value of their home. FI therefore sees a need to tighten the amortisation requirement and has submitted a proposal to the Government for approval. In FI's view, the risks on the commercial real estate market are also elevated, and the authority is carefully following the developments on this market as well.

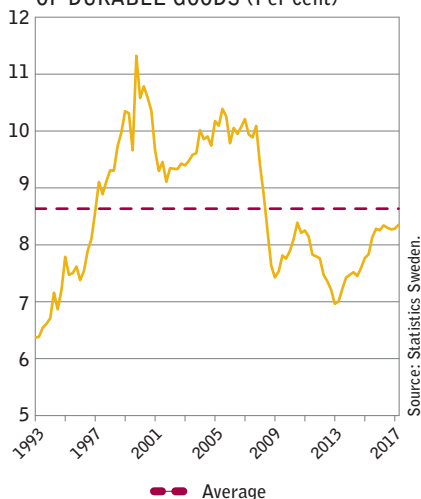
Vulnerability indicators for the household sector



39. HOUSEHOLD EXPECTATIONS FOR THEIR OWN FINANCES ARE SLIGHTLY LOWER (Index value)



40. HOUSEHOLD CONSUMPTION OF DURABLE GOODS (Per cent)



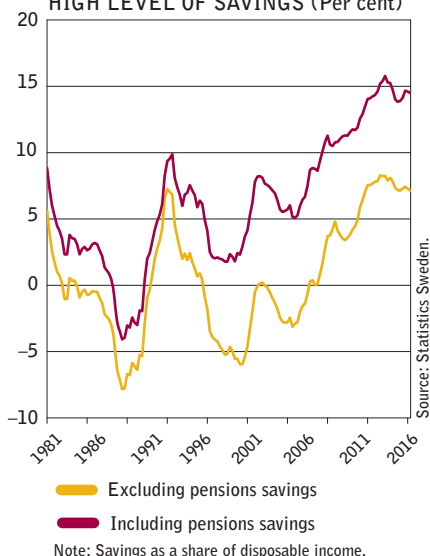
The current state of the Swedish economy is unprecedented, with low interest rates, high economic growth and high asset prices. These conditions will not persist forever. A sharp economic downturn that possibly coincides with falling house prices or other asset prices could result in households with a high level of debt sharply reducing their consumption. This could further deepen the downturn. In a worst-case scenario, this could lead to a negative spiral with falling income and reduced wealth. In order to prevent the build-up of imbalances, which in the long run can have a negative effect on the economy and financial stability, households need good resilience.

HOUSEHOLD FINANCES ARE STRONG

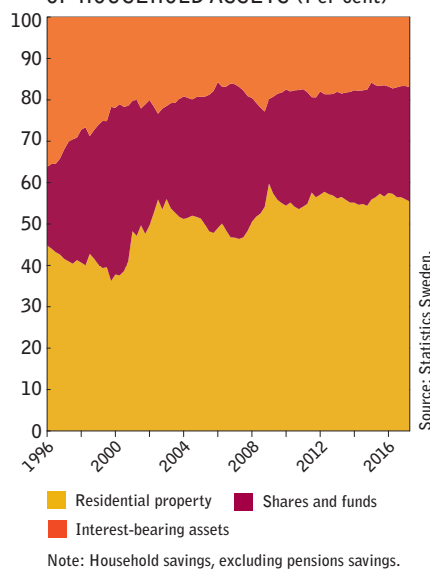
Household finances are strong due to the unique macroeconomic situation. After a long period of rising real wages and falling interest rate expenses, households' consumption capacity – the difference between their income and housing expenses – has increased. Households continue to take a positive view of their own finances even if the expectations were somewhat dampened during the second half of 2017 (Diagram 39). At the same time, the view of the Swedish economy as a whole has become more optimistic and in September was close to its historical average. Despite optimistic expectations and a large consumption capacity, households have been cautious. This is evident, for example, in that household consumption of durable goods is slightly below its historical average (Diagram 40). It is also reflected in a high savings ratio for the household sector as a whole. Household savings have risen for a long period of time and are at historically high levels (Diagram 41).

A large share of households have mortgages at variable rates. Variable mortgage rates are favourable when interest rates go down; household interest payments decrease as the interest rates fall. In the reverse situa-

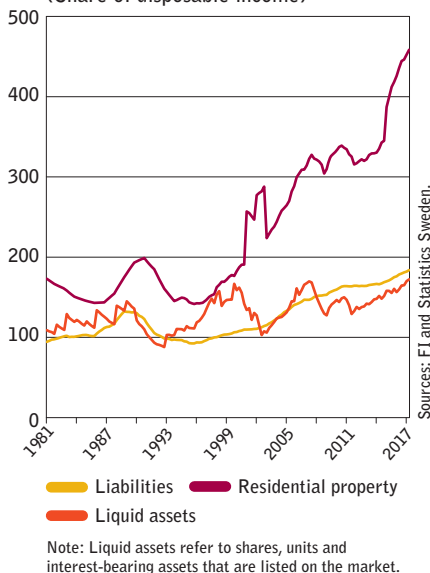
41. HOUSEHOLDS HAVE HIGH LEVEL OF SAVINGS (Per cent)



42. HOMES MAKE UP THE MAJORITY OF HOUSEHOLD ASSETS (Per cent)



43. HOUSEHOLDS HAVE LOWER LIQUID ASSETS THAN LIABILITIES (Share of disposable income)



tion, however, rising interest rates could weaken a household's financial position. There is a risk that households that have not expected interest rates to increase will reduce their consumption or use part of their savings to cover their rising interest rate expenses, but survey data shows that households have allowed for rising interest rates (Diagram 44). In five years, households expect the variable mortgage rate to be around 3.5 per cent, which is in line with the National Institute of Economic Research's forecast for the repo rate plus an average spread.⁴⁰ Swedish households historically have also had reasonable interest rate expectations⁴¹, but if interest rates rise more rapidly than expected, households may need to reduce their consumption, which could affect the economy at large.

Households' total assets are large. The sharp increase in house prices has meant that homes now represent a larger share of households' total assets, rising to 55 per cent. It is thus the single largest asset for households. Interest-bearing savings with low risk, bank deposits and bonds, which 20 years ago totalled 36 per cent of household assets, today comprise less than 17 per cent (Diagram 42). The majority of household savings are in types of assets that can fall in value during turbulent times. In addition, assets are unevenly distributed between households. For example, the one per cent of households with the highest incomes own almost 55 per cent of the shares of all households combined.⁴² Even if the savings and assets holdings of the household sector as a whole are large, many households may be forced to make major adjustments during economic downturns if the value of their assets falls. Household aggregate liquid assets are also somewhat lower than household debt (Diagram 43).⁴³

HOUSE PRICES AT HIGH LEVELS

House prices have doubled over the past ten years, and several international bodies take the position that residential properties may be overvalued.⁴⁴ In relation to household income, house prices are at their highest level in 40 years (Diagram 45). On the other hand, housing costs as a percentage of income are historically low due to low interest rates.⁴⁵

House prices are highest in the metropolitan areas, and primarily Stockholm, but the upswing is not a big-city-phenomenon; prices have increased in large areas of the country. This development reflects a high demand for housing, primarily in the metropolitan areas that are expe-

40 The increment refers to the average difference between the three-month variable mortgage rate and the repo rate since 2006.

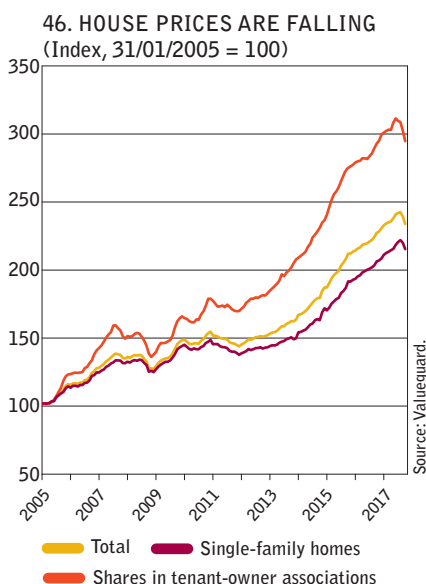
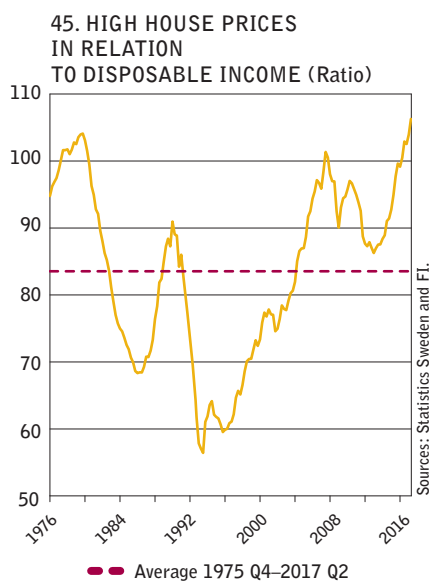
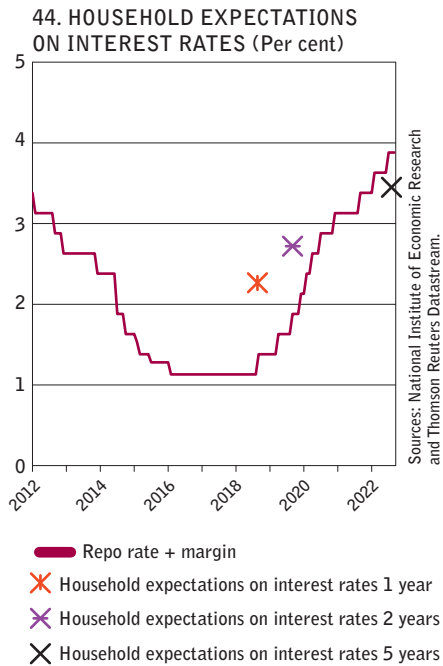
41 See, for example, Österholm, Pär (2017), "Är hushållens förväntningar rörande bolåneräntan realistiska?", *Ekonomisk Debatt*, Volume 45, no. 5, pp. 22–32. Available only in Swedish.

42 Statistics Sweden shareholder statistics.

43 To determine liquid assets for households, homes (single-family homes and tenant-owner apartments), occupational pensions and private pension savings have been excluded.

44 For example, IMF (2016) pointed out that the ratio between income growth and house price growth is 40 per cent above a historical average. ESRB's valuation model also indicates that homes in Sweden are overvalued by 40–60 per cent.

45 See, for example, Dermani et al. (2016) "Is a bubble forming in Swedish housing prices?", Sveriges Riksbank, *Economic Review* 2016:2.



riencing rapid population growth. A limited supply combined with low interest rates, the tax system's design and access to loans have also contributed to the higher house prices.⁴⁶

The housing market has cooled slightly during the second half of 2017 and the rate at which house prices are increasing has slowed. For the housing market as a whole, prices in October were 2.5 per cent lower than at the mid-year point (Diagram 46),⁴⁷ although this trend varies between geographic areas and types of objects. The slow-down is most evident in Stockholm, where prices of tenant-owner apartments are approximately 5 per cent lower than at the mid-year point.

Households are being more cautious when buying a home at the same time as the supply of homes has increased rapidly after the summer. The larger supply is largely due to a greater number of newly produced homes that are for sale. The number of bids per object fell over the past few months at the same time as the average time an object is on the market has increased. FI's analysis of the amortisation requirement that entered into force in June 2016 showed that mortgagors are purchasing less expensive homes and borrowing less as a result of the requirement.⁴⁸ FI's introduction of this amortisation requirement for highly leveraged households is considered to have reduced house prices by 3 per cent compared to what they would have otherwise been.

Even if the current price levels are justified by the current conditions, these conditions can rapidly change. House prices may adjust downward. FI considers the risk of a major fall in house prices to still be elevated.

Housing construction is increasing rapidly

One contributing factor to the recent years' rapid upswing in house prices was a low supply of residential properties in relation to demand. This has become particularly clear in the metropolitan areas and applies to both owned and rented properties. Housing construction has been increasing very rapidly for some time. In 2016, construction began on 60,000 new residential properties in Sweden, and in 2017 this number is expected to increase (Diagram 47). The greater supply of residential properties has contributed to the slow-down in house prices.

The current level of construction is the result of a pent-up need for residential property following several years of low construction rates in relation to population growth (Diagram 47). As supply increases, the development in the future will depend on the degree to which the newly produced residential properties can be sold. Newly produced properties are often expensive, both to own and rent. There is a risk that high resource utilisation in the construction sector will make newly produced properties even more expensive. If the current production rate is maintained and mobility on the housing market does not function well, some properties may not be sold, which could lead to a fall in prices.

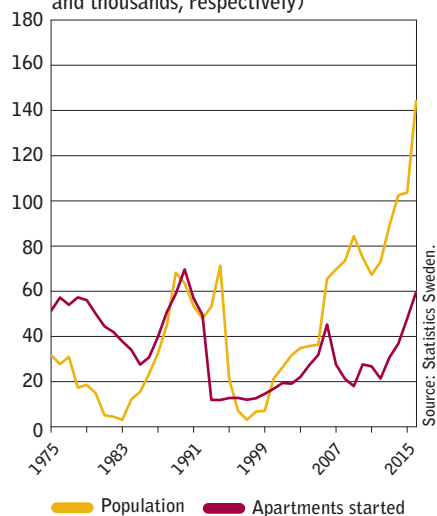
The greater supply of new residential properties contributes to increasing household debt (see *New residential production contributes to debt growth*). Ownership of new homes is largely financed through loans to both households and tenant-owner associations.

46 See, for example, Turk (2015), Flam (2016), and Dermani et al (2016) for analysis and discussion regarding drivers for price development on the Swedish housing market.

47 Valueguard composite index.

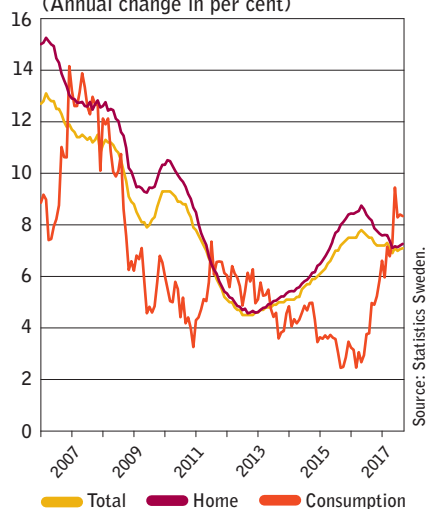
48 FI Analysis 10: *Amortisation requirement reduced household debt*.

47. POPULATION GROWTH AND APARTMENTS STARTED
(Change in thousands of people and thousands, respectively)



Note: Apartments refer to residential units in single-family homes and apartment buildings.

48. HOUSEHOLD DEBT BY PURPOSE
(Annual change in per cent)



Household debt continues to grow rapidly

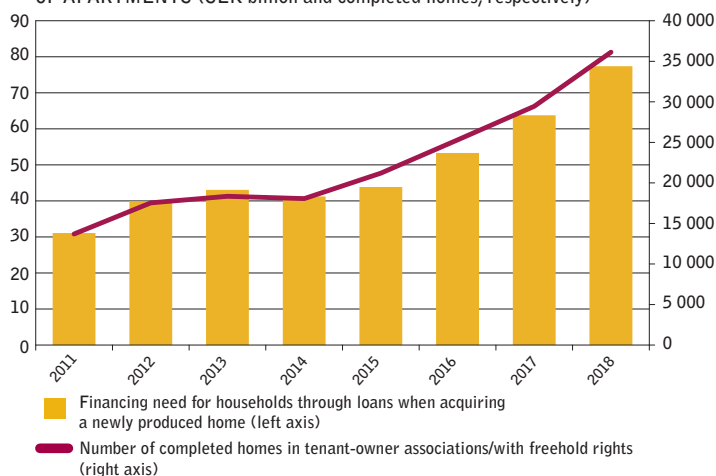
The rate at which household debt is growing has slowed somewhat compared to in 2016. Over the past few months, the rate of growth has levelled off to an annual rate of around 7 per cent. Mortgages are the primary driver behind the development in household debt, but consumption loans have also increased sharply since mid-2016 (Diagram 48). Consumption loans constitute only around 5 per cent of total household debt and thus contribute only marginally to the total increase in household debt.

Households living in tenant-owned apartments usually have an indirect debt via the tenant-owner association's loans in addition to their own mortgages. Loans to tenant-owner associations have risen since 2012 and amounted to SEK 448 billion in September 2017 (Diagram 49). This is an increase of 10 percent compared to the corresponding month the previous year. The increased lending to tenant-owner associations is largely linked to the high rate of new residential production. It is normal for new tenant-owner associations to have large debt.

New residential production contributes to debt growth.

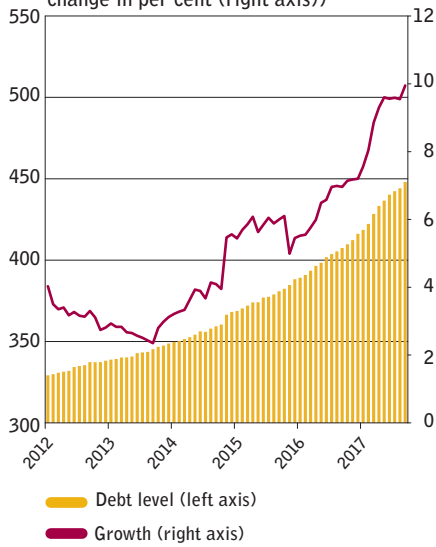
The financing of new residential production contributes to the increase in household debt. The contribution from new residential production will increase over the next few years due to the high rate of construction. In 2016, 25,303 residential properties were completed in Sweden as either freehold or tenant-owned apartments. FI estimates that household loans for these properties amounted to SEK 53 billion.⁴⁹ This means that new residential production corresponded to 1.9 percentage points of the total increase of 7.6 per cent in mortgages. In 2017 and 2018, 29,500 and 36,000 residential properties in the form of either tenant-owner apartments or freehold apartments, respectively, are expected to be completed. House-

R1. HOUSEHOLD LOANS NEEDED TO FINANCE NEW PRODUCTION OF APARTMENTS
(SEK billion and completed homes, respectively)



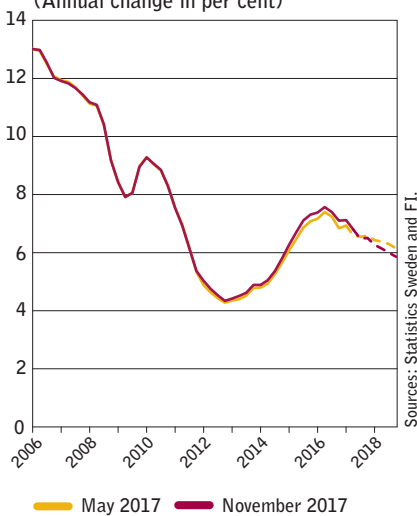
49 An average purchase price for residential properties was calculated using average down payments for apartments in tenant-owner associations. Average production costs for single-family homes with freehold rights have been calculated using data from Statistics Sweden. The loan-to-value ratios for households that bought a newly built home are assumed to correspond to the volume-weighted loan-to-value ratio in FI's mortgage survey.

49. LENDING TO TENANT-OWNER ASSOCIATIONS IS RISING (SEK billion (left axis) and annual change in per cent (right axis))



Source: Statistics Sweden.

50. GROWTH OF HOUSEHOLD DEBT INCLUDING FORECAST (Annual change in per cent)



Note: Lending rate to households, seasonally adjusted.

Sources: Statistics Sweden and FI.

holds' total loan needs for these residential properties amount to SEK 64 billion and SEK 77 billion, respectively (Diagram R1).⁵⁰ This corresponds to 2.2 and 2.5 per cent, respectively, of the mortgage stock in 2017 and 2018.

More construction is of course necessary to meet the high demand for residential property, but it also contributes to an increase in household debt and the aggregate loan-to-income ratio in the short term. In the long term, the greater supply of new residential properties can contribute to lower house prices and thus lower debt.

Household debt has developed in line with FI's forecast in its last stability report. FI's current forecast is only marginally revised and predicts that the growth of household debt will slow over the next few years (Diagram 50). Despite this slow-down, debt is still expected to continue to grow faster than household income even in the future. This is due in part to the high rate of new residential production.

STABILITY RISKS ARE LIMITED

FI makes the assessment that the risks to the financial system's stability linked to household debt are limited. FI's stress tests show that new mortgagors are able to make their mortgage payments even given significantly higher interest rates and sharply increased unemployment.⁵¹

In terms of all lenders, the average loan-to-value ratio, i.e. the mortgage in relation to the value of the home, is 58 per cent.⁵² This means that both households and banks have collateral that is worth more than the value of the loan, even if house prices were to fall. In general, house prices would have to fall quite dramatically before the average household would experience negative equity in their home.

The high level of household savings and the existing amortisation requirement enhance household resilience. FI's vulnerability indicators, calculated at aggregate level, also indicate that households have a strong economic position and their debt is not a threat to financial stability.⁵³

Households with a high level of debt are vulnerable

FI makes the assessment that households are able to pay their mortgage costs even if their financial circumstances were to deteriorate. Households are also judged to have good resilience to a fall in house prices. However, there are still vulnerabilities that are primarily related to risks to the overall economy. Households with high debt can reduce their consumption during an economic downturn. This can have a large impact on economic development since household consumption constitutes almost 50 per cent of GDP. An already negative economic outcome would then be further enhanced and, in a worst-case scenario,

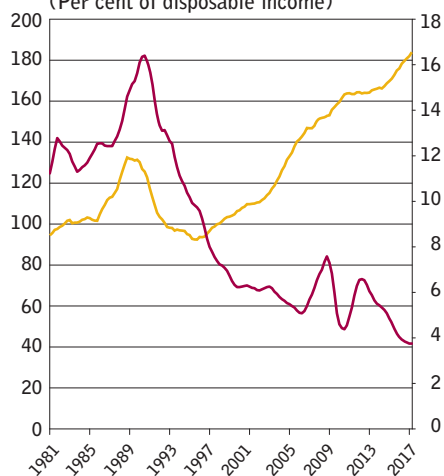
50 The number of completed residential properties in 2017 and 2018 is expected to correspond to the number of building starts in 2015 and 2016. The price level for new residential production in 2017 and 2018 is calculated as the price level for 2016 with increments for expected inflation.

51 The stress tests are reported in their entirety in *The Swedish Mortgage Market 2017*.

52 Refers to the stock of mortgages, volume-weighted loan-to-value ratio, see *The Swedish Mortgage Market 2017*.

53 For a comprehensive review of the vulnerability indicators FI uses, see *FI Analysis 2: Finansinspektionen's vulnerability indicators*.

51. HOUSEHOLD AGGREGATE DEBT IS CONTINUING TO RISE (Per cent of disposable income)

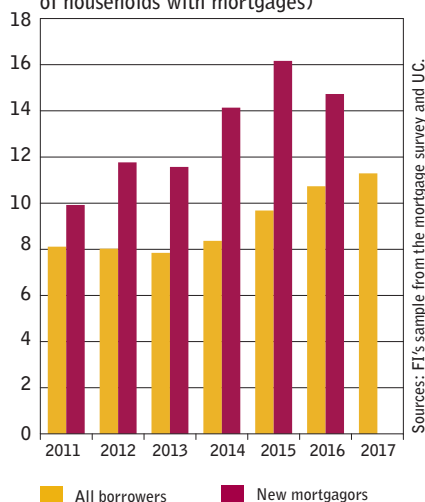


— Loan-to-income ratio (left axis)
— Interest-to-income ratio (right axis)

Note: Aggregate debt and interest expenses as a share of disposable income.

Source: Statistics Sweden.

52. PERCENTAGE OF HOUSEHOLDS WITH A LOAN-TO-INCOME RATIO ABOVE 450 PER CENT OF GROSS INCOME (Percentage of households with mortgages)



■ All borrowers ■ New mortgagors

Note: All borrowers refers to data gathered via UC from July of each year, and new mortgagors refers to data gather via FI's mortgage survey during the third quarter of each year.

Sources: FI's sample from the mortgage survey and UC.

amplify a financial instability (see *Households with high loan-to-income ratios pose risks to the economy*). One important measure to diminish the macroeconomic vulnerabilities is to limit the number of households with high debt.

A large share of households with new mortgages have a high loan-to-value ratio.⁵⁴ Approximately 68 per cent of the debt in the mortgage stock belongs to households with loan-to-value ratios greater than 50 per cent. Many Swedish households are thereby relatively highly leveraged in relation to the value of the home. Before FI introduced an amortisation requirement for mortgages in 2016, the assessment was made that households with loan-to-value ratios of more than 50 per cent created such large risks linked to consumption reduction that an amortisation requirement was justified. This assessment has not changed.

The household sector as a whole has a high level of savings and large assets, but a large percentage of the assets are risky, such as shares and residential properties. Residential properties are also illiquid. During economic downturns, it not just house prices that fall, but also prices of other risky assets, such as shares. The value of household assets after a shock is therefore uncertain.

The fact that many households have large balance sheets, both large debt and large assets, means that households may need to make major adjustments to restore their net wealth if asset prices were to fall. This means that households would increase their savings by cutting back on consumption.

Rapidly rising house prices have meant that households are borrowing more in relation to their income. The aggregate loan-to-income ratio has been rising for a long period of time, and household interest rate expenses have fallen (Diagram 51). Households with new mortgages borrowed on average less in relation to their 2016 income following the introduction of the amortisation requirement, but many new mortgagors continue to have a high loan-to-income ratio (Diagram 52).⁵⁵ Among all mortgagors, the share of households with high loan-to-income ratios continued to increase in 2017.

Households with high loan-to-income ratios pose risks to the economy

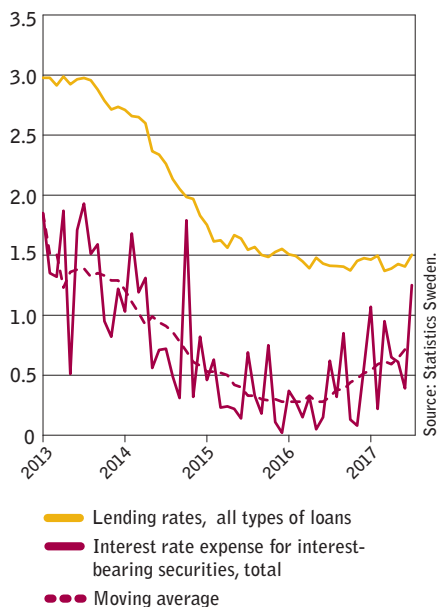
FI makes the assessment that the high and rising loan-to-income ratios among an increasing number of borrowers constitute an elevated economic risk for the Swedish economy. The financial crisis in 2008 showed that households with large or rising loan-to-income ratios amplified the downturn in the economy in countries such as the UK, Denmark and the USA. In the UK, households with high loan-to-income ratios reduced their consumption, even though their mortgage rates were lowered. They thus enhanced the fall in consumption by 2 percentage points.⁵⁶

54 *The Swedish Mortgage Market 2017*.

55 See *FI Analysis 10: Amortisation requirement reduced household debt*.

56 See also Baker, S.R., "Debt and the Consumption Response to Household Income Shocks", working document, 2014, (to be published by *Journal of Political Economy*); Andersen, A.L., C. Duus and T.L. Jensen, "Household Debt and Spending During the Financial Crisis: Evidence from Danish Microdata", *European Economic Review* 89, pp. 96–115, 2016; Bunn, P. and M. Rostom, "Household debt and spending", *Bank of England Quarterly Bulletin*, 2014, Q3.

53. NON-FINANCIAL FIRMS' FINANCING COST, BANK LOANS AND MARKET FINANCING (Per cent)



Note: Expense for interest-bearing securities is estimated by Statistics Sweden based on Sveriges Riksbank's compilation of non-financial firms' market financing. The dashed line refers to a 12-month, centred moving average. Lending rates refer to all loans, new contracts.

Source: Statistics Sweden.

Under a normal economic downturn with lower inflation, monetary policy would become more expansive. Lower interest rates allow leveraged households to improve their cash flow, and they can maintain or even increase their consumption levels. This effect would be greater the higher the debt and the loan-to-income ratio. Monetary policy therefore functions as a stabiliser. However, this reasoning is based on the central bank having the room to lower the policy rate, which is not a given since the rates are already very low. It is also assumed that mortgage rates follow the policy rate and that households will consume more if their interest rate payments decrease.

Monetary policy is not the only factor that affects households' mortgage rates and thus households' consumption capacity during a financial crisis. For example, banks and credit companies may demand a higher risk premium from borrowers. They may do this because falling house prices make borrowers less creditworthy. This means that the interest rates borrowers will pay do not fall in line with the policy rate; the spread between borrowers' interest rate and the policy rate is increasing. During the financial crisis in 2008, this spread increased sharply in several countries.

In a financial crisis, banks and credit companies can also be more restrictive in their lending. Households that previously financed consumption with loans may find it more difficult to do so. This applies primarily to households with a high level of debt. The experiences in the USA, the UK and Denmark show that more restrictive lenders were one of the reasons why households with high or rising loan-to-value ratios reduced their consumption during the crisis.

In a financial crisis, the economic development is also surrounded by more uncertainty. This means that households lower their expectations for future income and uncertainty about future possibilities to repay loans increases. There are some indications that households in the UK with high loan-to-income ratios reduced their consumption for this reason as well.

Household finances during an economic downturn can also be more affected by unemployment. Swedish households with high loan-to-income ratios have lower cash flow margins than households with low loan-to-income ratios and would probably reduce their consumption more following a decrease in income.

In summary, there are several factors indicating that households with large debt tend to amplify an economic downturn and thus represent a risk to macroeconomic stability.

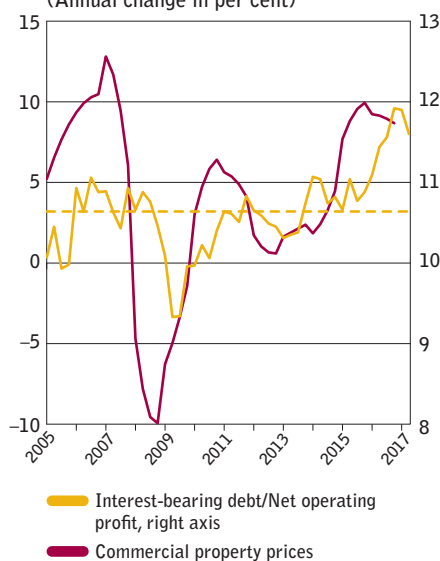
FI makes the assessment that the macroeconomic risks associated with a high level of household debt are elevated. The current amortisation requirement has reduced vulnerabilities, but FI, like before, is concerned about the high and rising loan-to-income ratios.

FI PROPOSES STRICTER AMORTISATION REQUIREMENT

Building resilience is particularly important given the unique state of the Swedish economy. The slow-down in prices can be seen as a healthy sign, given that it occurs in an environment with good economic conditions. FI submitted a proposal to the Government regarding a stricter amortisation requirement. FI proposes that the requirement enter into force on 1 March 2018.

The amortisation requirement FI implemented in 2016 slowed debt growth among new mortgagors and thus increased their resilience to shocks. FI's analyses also show, however, that the connection between

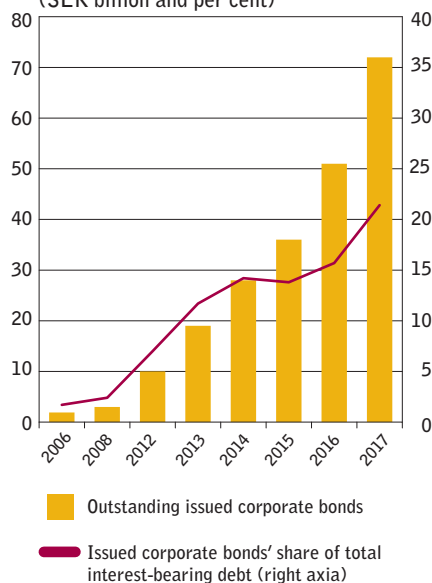
54. COMMERCIAL PROPERTY PRICES AND DEBT
(Annual change in per cent)



Note: Dashed line refers to the average since 2005.

Sources: Catella and MSCI.

55. CORPORATE BONDS ISSUED BY REAL ESTATE PROPERTIES
(SEK billion and per cent)



Note: Data refers only to listed real estate companies on Nasdaq OMX Nordic Main Market. 2017 refers to the first six months of 2017.

Source: Catella.

household loan-to-income ratios and loan-to-value ratios is weak.⁵⁷ FI therefore makes the assessment that the current amortisation requirement is not having enough of a diminishing effect on household loan-to-income ratios over time.

FI makes the assessment that a stricter amortisation requirement for borrowers with high loan-to-income ratios will gradually affect more new mortgagors if house prices increase faster than income. It will also slow household debt and in the long run make households less vulnerable to shocks. This, in turn, will make the Swedish economy more resilient. The measure lies within the framework of FI's assignment to counteract financial imbalances, but it also addresses consumer protection.

According to the proposal, new borrowers with mortgages that exceed 4.5 times their gross income must amortise at least 1 per cent of the debt in addition to the current amortisation requirement. The obligation to amortise at least 1 per cent given a loan-to-value ratio of 50–70 per cent and at least 2 per cent given a loan-to-value ratio of more than 70 per cent has not changed.

The measures FI previously implemented and the pending stricter amortisation requirement cannot solve the problem of household debt on their own. Household incentives to take on debt through the design of the tax system need to be reviewed. A better-functioning housing market is also important for reducing the increase in household debt. Measures are needed in several policy areas, including reforms that improve utilisation of existing homes.

COMPANIES AND FINANCIAL STABILITY

Non-financial companies play a central role in macroeconomic development. In order for these companies to be able to make investments and conduct other activities, they need financing. If shocks arise in the credit supply, these companies' investments and other activities may decline, amplifying the economic downturn. Corporate debt can also cause losses for the banks and other financial firms that have lent money to the companies if companies have problems making their interest and amortisation payments. Non-financial companies can therefore affect financial stability.

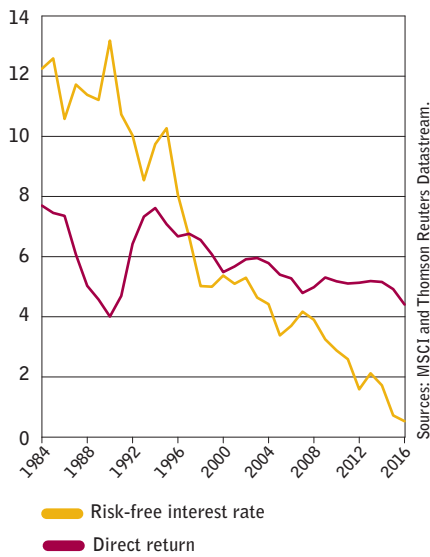
Corporate debt is rising

Corporate debt is heavily influenced by the state of the economy. A long period of strong Swedish growth with low interest rates has contributed to an increase in corporate debt. Banks' lending to non-financial companies increased in Q2 2017 by approximately 4 per cent on an annual basis.

It is not only bank loans that are increasing. The non-financial companies' borrowing through the issue of interest-bearing securities increased during Q2 by 15 per cent compared to the corresponding quarter the previous year. This form of financing has grown rapidly and now constitutes approximately one-third of total corporate borrowings. One probable reason that market funding has become an increasingly important source of funding for the companies is that the pricing on the capital market is attractive in relation to bank financing

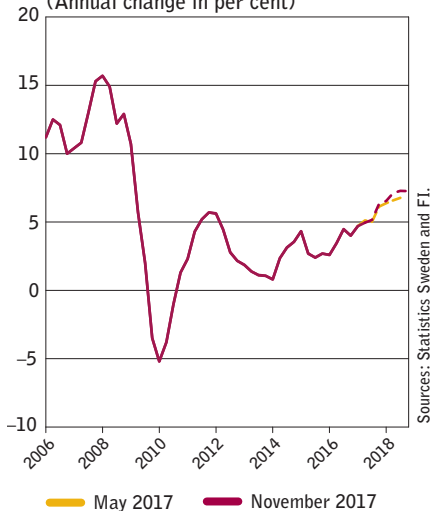
⁵⁷ See Appendix 2, *Den svenska bolånemarknaden* (2017), April 2017 (Ref. 17-5096). An English translation is available at www.fi.se.

56. RISK-FREE INTEREST RATE AND DIRECT RETURN ON COMMERCIAL PROPERTY (Per cent)



Note: Risk-free interest rate is defined as a Swedish 10-year government bond. Direct yield refers to all property types throughout all of Sweden and is defined as interest income minus operating and maintenance expenses through the value of the property at the beginning of the year including capital expenses.

57. DEBT GROWTH NON-FINANCIAL FIRMS, INCLUDING FORECAST (Annual change in per cent)



Note: Growth in lending to corporates from Swedish MFI, annual change in per cent.

(Diagram 53). In addition, a desire to diversify funding and reduce bank dependency may also play a role.

Rising prices on commercial real estate generate more debt

Prices on the commercial real estate market contributed to an increase in real estate companies' total debt. The debt of listed real estate companies in relation to net operating income⁵⁸ has risen sharply over the past two years and are now at historically high levels (Diagram 54). The average loan-to-value ratios⁵⁹ have gone down to around 50 per cent, which is low from a historical perspective. This is largely because of higher property prices.

As interest rates have gone down, demand for corporate bonds has risen. The listed real estate companies therefore were able to a larger extent to finance their operations via the capital markets and thus benefited from a lower financing cost than what they were offered by banks. From representing only a few percent of the listed real estate companies' interest-bearing liabilities, bonds now represent more than 21 per cent (Diagram 55). Borrowed capital still constitutes a large part of the companies' financing, even if the share of traditional bank financing has decreased among listed real estate companies.

The commercial real estate sector is currently strong. Transaction volumes are high. A strong economy and higher employment in the service sector have contributed to greater demand for premises in attractive locations, which has resulted in low vacancy rates and rising rents. Low interest rates also mean that the companies' financing costs are low. However, the direct return requirements for commercial real estate have not decreased as much and the risk premium that investors require to invest in real estate is record-high (see Diagram 56). This has meant that an increasing number of investors in their search for high returns have increased their allocation of long-term assets in real estate. Taken together, these factors have contributed to a rapid rise in the prices of commercial property. The economic conditions are expected to continue to contribute to an increase in commercial property prices in the future, but at a slightly lower rate than in 2016.

Conditions for continued high credit growth

Corporate debt is currently high in relation to GDP. Financing terms for companies are good, and interest rates remain at historically low levels. This indicates that credit growth among companies will continue to be high. The National Institute of Economic Research's company indicators show a stronger or a lot stronger market than normal. Companies consider access to financing to be normal. Companies are expected to continue to increase their borrowings given that investments are increasing. FI's forecast shows that the growth rate will continue to increase slowly to approximately 6.6 per cent by mid-2018 (Diagram 57).

Risks on the commercial real estate market are elevated

The economic conditions for real estate companies are currently favourable, and the real estate companies are reporting strong earnings and payment capacity. However, their cash flows are volatile and they are also subject to a refinancing risk since their loans have relatively short maturities. This means that the build-up of debt in combination

58 Income minus operations and maintenance costs.

59 Measured as debt divided by the properties' market values.

with the companies' short interest rate adjustment periods (like households) are sensitive to rising interest rates. Even if profitability is currently good, the favourable economic conditions can change quickly. In a worst-case scenario, real estate companies may be pressured by a combination of rising vacancies, falling rents, reduced access to loans and rising interest rate expenses. They may in such a scenario find it difficult to fulfil their obligations to lenders. In summary, FI makes the assessment that the risks in the commercial real estate market are elevated.



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