



FINANSINSPEKTIONEN

Stability in the Financial System

31 MAY 2017



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Another step forward

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 report is the first report for the year.

STRENGTHENING GLOBAL ECONOMY ON A WIDER FRONT

The global economic recovery is stronger and more widespread than it was six months ago when we published our last stability report. It is particularly gratifying that the European economy appears to be improving, but significant political and geopolitical uncertainties remain. Many banks are also still weak, and the public finances of several countries are stretched thin. From this perspective, it is important for changes to the international financial regulations to be of such a nature that they benefit financial stability. On the one hand, there is a need for robust, international agreements regarding minimum regulations, but there is also a need for a certain degree of national flexibility since the financial sector and state of the economy vary between countries. This balance is important, but it is not easily achieved.

UNIQUE STATE OF THE ECONOMY IN SWEDEN

The state of the Swedish economy is unprecedented in that good growth and falling unemployment are accompanied by extremely low interest rates. This combination creates an environment that fosters rapid increases in house prices and debt as well as fundamental imbalances on the housing market, and vulnerabilities build. This means that households and the Swedish economy will be less equipped to handle a downturn in the economy. This downturn will come, sooner or later, and when it does it may be amplified by a significant fall in house prices and a high level of debt among households. The Riksbank is also facing limited opportunities to ward off such a downturn through lower interest rates since policy rates are already low.

STRICTER AMORTISATION REQUIREMENT

In recent years, FI has implemented a number of measures to strengthen the resilience in the financial sector and among households, most recently in the form of the amortisation requirement that entered into force approximately one year ago. We have seen an improvement in households' resilience following the implementation of the amortisation requirement since they are buying less expensive homes, borrowing less and over time will pay off their loans faster.

The fact that the amortisation requirement has achieved its intended effect is positive, but the steadily rising house prices and rapidly increasing debt mean that vulnerabilities are still accruing. Households need to become even more resilient, and we are primarily observing that an increasing number of borrowers have large loans in relation to their income. We would like to slow and reverse this trend, but without crippling the housing market, since too much regulation could create the very type of crisis that we want to avoid. Such a regulation should be an incentive to have less debt already today, and preferably be more restrictive if vulnerabilities continue to increase.

The best way to make households more resilient without undesirable side effects is to introduce a stricter amortisation requirement for new mortgage holders who take on large loans in relation to their income. It is possible to introduce a stricter requirement relatively quickly since it falls under the current amortisation legislation. This reduces the need to take more drastic measures at a later date. We therefore propose a stricter amortisation requirement in that new mortgage holders with a debt-to-income ratio (the ratio between the mortgage and gross income) higher than 4.5 must amortise an additional one per cent of their debt every year, i.e. in addition to the required amortisation under the current regulations. The rules surrounding the new amortisation requirement will follow the current requirements in all material respects.

It is generally acknowledged that measures of this type have a tangible impact on households in metropolitan areas since they generally borrow the most in relation to their income. However, they will also be hit the hardest if house prices take off or a crisis unfolds in the future. It is therefore not a sustainable option in the long run not to take action, both in terms of the economy and for these households.

UNIFIED POLICY APPROACH IS REQUIRED

FI has been tasked with counteracting financial imbalances with the aim of protecting the financial system, households and the Swedish economy. Given the risks that are continuing to accrue, FI takes the position that a stricter amortisation requirement is a well-balanced proposal that strengthens households' resilience to shocks. However, FI is not able to single-handedly resolve the growing vulnerabilities on the housing and mortgage market. This requires a unified approach on a broad front that includes multiple policy areas and multiple public bodies.

Stockholm, 31 May 2017



Erik Thedéen
Director General

Summary

The Swedish economy is thriving, but a strong economy combined with low interest rates has resulted in high asset prices and rapidly rising household debt. The risks associated with high house prices and large household debt continue to be elevated. A future downturn in the economy could be accentuated by a sharp fall in house prices and large reductions in consumption. The amortisation requirement FI introduced in 2016 has reduced debt and resulted in households buying less expensive homes. It will also improve household resilience over time. In order to further strengthen the resilience of households, FI intends to introduce a stricter amortisation requirement.

The Swedish financial system and the Swedish economy are closely linked to the global markets. Global growth is strong, and according to the International Monetary Fund (IMF) it will continue to increase over the next few years. Political uncertainty in Europe has declined since the beginning of the year, particularly following the French presidential election, but uncertainty is still at an elevated level. Greater protectionism at a global level threatens to have a negative impact on global trade, and anti-EU movements are making the work within the EU on economic and financial issues more difficult. The European economic forecasts have improved over the past six months, but many European banks continue to be weak, with low profitability and a high percentage of non-performing loans. Even if economic conditions have improved in general, the business cycles in the USA, the euro zone and Sweden are in different phases, which means that each is applying different economic policies. For Sweden, this presents major challenges for its economic policy.

The Swedish economy grew in 2017 as resource utilisation and employment continued to rise. Interest rates have also continued to hold at historically low levels for a long period of time. The current economic situation in Sweden is unprecedented, and the combination of good growth and extremely low interest rates has resulted in the rapid increase of asset prices and debt. In such an environment, there is a risk that imbalances will build up, which in turn could lead to stresses if shocks were to hit the Swedish economy.

BANKS SHOW SATISFACTORY RESILIENCE

The Swedish banking system is large and dominated by a small number of closely interlinked banks. Because the banks are also dependent on market financing, the banking system is vulnerable and the economic consequences could be considerable if banks were to experience problems.

FI makes the assessment that Swedish banks in general have satisfactory resilience and are able to maintain critical services even given turbulent conditions due to the fact that 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 to cover losses during economic difficulties.

The banks fulfil FI's requirements on liquidity reserves to be able to handle temporary periods of stress. Swedish banks are better capital-

ised and have higher profitability than their European competitors, which has ensured good access to funding, but a large share of their market funding comes from foreign markets, which means that uncertainty on the international capital markets could spread to the Swedish banks even if confidence in them has not waned.

A large percentage of the banks' assets consist of mortgages and loans to firms that conduct business related to real estate. The developments on the mortgage and real estate market therefore play a central role in the banks' risk-taking, revenue and earnings. Prices for commercial properties have risen sharply in recent years, and real estate companies are reporting an increase in liabilities. There is considerable demand for commercial properties, but the sector is sensitive to economic downturns. In FI's view, the risks on the commercial property market may be elevated and the authority is following the developments on the market carefully.

MARKET LIQUIDITY HAS NOT BEEN TESTED

Securities markets provide the channel through which the financial system sets prices and allocates risk and capital. Markets that function well can absorb shocks, while markets that function poorly instead can amplify and spread problems.

The securities markets have shown relatively low levels of financial stress despite considerable political and economic uncertainty in recent years. Market liquidity currently appears to be stable, but given that the market has been calm, its resilience has not been tested. There are individual indicators that point to underlying vulnerabilities in the securities markets, and it is difficult in advance to determine how these markets will function in the presence of greater stress.

One prerequisite for functioning securities markets is the presence of an efficient, reliable financial infrastructure. FI makes the assessment that the financial infrastructure in Sweden currently has a high degree of operational reliability and that it functions well, but FI also takes the position that several systemically important infrastructure firms should improve their internal governance and control. It is also important to develop IT security and internal contingency plans to be able to prevent and manage cyber attacks.

CHALLENGES IN THE LONG RUN FOR INSURANCE COMPANIES

Life insurance companies currently appear to have stable positions. The low interest rates are weakening the companies' solvency, but the effect is being offset by strong growth on the stock market. The stress test conducted by the European Insurance and Occupational Pensions Authority (EIOPA) shows that, in general, Swedish insurance undertakings are financially strong and can handle financial shocks. However, insurance undertakings are also facing challenges in the future if interest rates continue to be low, and in the long run it may be problematic for life insurance companies to fulfil their guaranteed obligations.

The life insurance companies' investment behaviour during periods of financial turbulence may amplify fluctuations on the financial markets. The regulations for valuing the companies' long-term commitments are designed in part to prevent procyclical behaviour, but they have a downside in that there is a risk that pension liability will be undervalued in

the presence of persistent low interest rates. In order to handle the problem, EIOPA has adopted a new method to calculate UFR, the long-term stable equilibrium interest rate used to calculate the present value of guaranteed commitments with long maturities. This method probably means that Swedish insurance undertakings will need to adapt to lower UFR levels over the next few years.

FI INTENDS TO INTRODUCE STRICTER AMORTISATION REQUIREMENT

FI makes the assessment that the probability of a fall in house prices is higher than normal. House prices have increased rapidly over a long period of time, and in the past few years they have increased at a significantly higher rate than household income. If serious shocks were to affect the Swedish economy, house prices may fall sharply, which could amplify a downturn in the economy.

Strong growth and extremely low interest rates have meant that house prices and household debt have increased rapidly. The finances of Swedish households continue to be strong: income is rising, savings are high and the households have significant net wealth. Households may have large debts, but their repayment ability is good. The risks associated with the households' high level of debt are therefore primarily related to the possibility that highly indebted households may sharply reduce their consumption in the event of an economic downturn. Households with a high level of debt are judged to be more sensitive to a loss of income and macroeconomic shocks.

The amortisation requirement FI implemented in 2016 has resulted in new mortgage holders borrowing less and purchasing less expensive homes, which has increased their resilience to macroeconomic shocks. As households continue to amortise, they will further strengthen their resilience.

However, household debt is continuing to increase in relation to the household income and house prices are rising, which means that macroeconomic vulnerabilities are continuing to build. In order to further strengthen households' resilience, FI therefore intends to introduce a stricter amortisation requirement for households with high debt-to-income ratios. Under this requirement, households that borrow more than 4.5 times their gross income must amortise one per cent a year in addition to the amortisation payments required under the current regulations. The stricter amortisation requirement will be based on both the value of the home and the household's income.

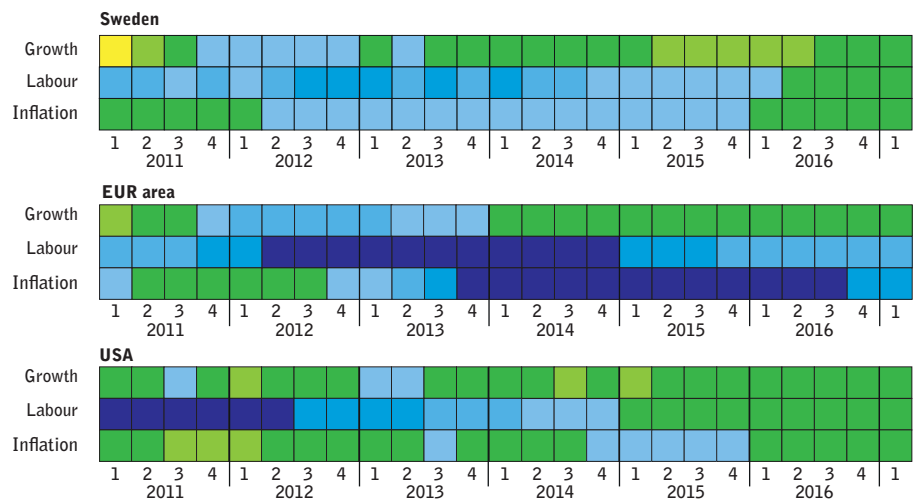
The stricter requirement will affect approximately 14 per cent of new mortgage holders, but if debts continue to increase faster than income, this number will rise. The larger amortisation payment will probably result in households taking on smaller mortgages and purchasing less expensive homes. Highly indebted households will also reduce their debt faster over time. FI therefore makes the assessment that the stricter requirement will increase households' resilience to macroeconomic disruptions.

It is also important to note that a stricter amortisation requirement only refers to new mortgage holders. FI's measures cannot resolve the fundamental problems on the housing market. In order to prevent rapidly rising house prices and debt from leading to major imbalances, measures are also needed in other policy areas.

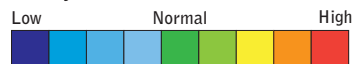
State of the economy

Global growth is rising and the economic forecasts in Europe have improved. Political uncertainty has declined since the beginning of the year, but greater protectionism threatens to have a negative impact on global trade and anti-EU movements are making the work within the EU on economic and financial issues more difficult. The USA, the euro zone and Sweden are each in a different phase in their business cycles, which means each has a different focus in its economic policy. In Sweden, the combination of a strong economy and low interest rates has resulted in rapid growth in asset prices and debt. This could lead to a build-up of imbalances, which in turn could amplify a future economic downturn.

State of the Economy

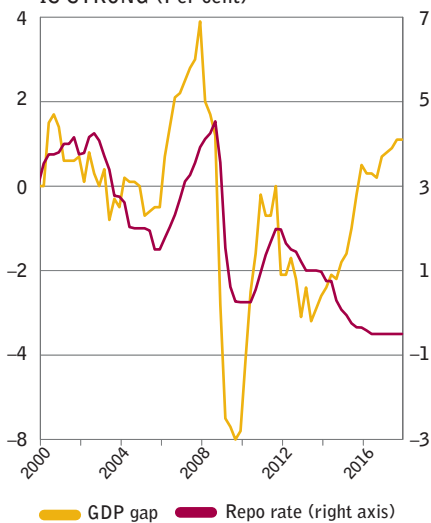


Activity level



The heat map shows the development of the vulnerability categories over time. The colours depend on how the macro variables relate to a long-term expected equilibrium. Growth refers to GDP and the labour market refers to unemployment. Inflation is an average of core inflation and regular inflation.

1. THE SWEDISH ECONOMY IS STRONG (Per cent)



Note. The GDP gap and the repo rate have followed opposite trends since 2014, and the difference is increasing.

Source: National Institute of Economic Research (Sweden).

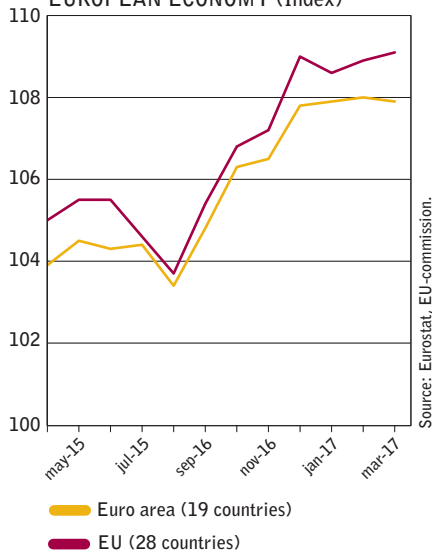
Growth in the real economy is important for financial stability, at the same time as good financial conditions and financial stability are necessary for sustainable economic growth. Economic growth is dependent on a functional financial system that allows firms to borrow to make investments and households to borrow to distribute their consumption over time. The opposite is true in that if growth in the real economy is worse than expected, this has an impact on the financial sector. Therefore, extremely large shocks in the real economy could 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.

SWEDISH AND US ECONOMIES OUT OF STEP WITH EUROPE

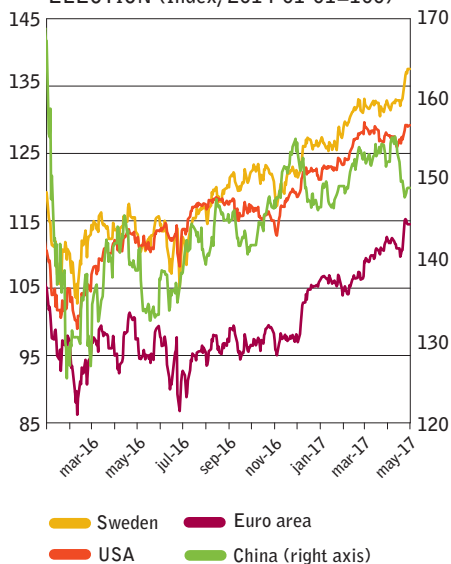
There are strong indications that the economic recovery after the financial crisis in 2008 has gained speed. According to the International Monetary Fund's (IMF) forecast, economic activity across the world

2. RISING OPTIMISM FOR THE EUROPEAN ECONOMY (Index)



Note. The Economic Sentiment Indicator (ESI) is a composite indicator made up of five sectoral confidence indicators with different weights: Industrial confidence indicator, Services confidence indicator, Consumer confidence indicator, Construction confidence indicator Retail trade confidence indicator.

3. UPSWING IN THE US STOCK MARKET AFTER THE PRESIDENTIAL ELECTION (Index, 2014-01-01=100)



Source: Thomson Reuters Datastream.

will increase in 2017 and 2018 (see Table 1), but there are large differences around the world. The business cycles in the USA, the euro zone and Sweden are in different phases, which means that different economic policies are being applied. For Sweden, this means major challenges for its economic policy.

TABLE 1. Real GDP growth (annual percentage growth)

	2016	2017	2018
Global	3.1 (3.1)	3.5 (3.4)	3.6
Emerging markets	4.1 (4.2)	4.5 (4.6)	4.8
USA	1.6 (1.6)	2.3 (2.2)	2.5
Euro zone	1.7 (1.7)	1.7 (1.5)	1.6
Sweden	3.3 (3.3)	2.5 (2.0)	2.1

Note. 2017 and 2018 are forecasts.

Source: IMF World Economic Outlook and NIER.

The Swedish economy is currently strong, with rising resource utilisation (see Diagram 1) and rising employment. However, prices and salaries in Sweden are influenced by the weaker recovery in Europe¹. Despite the strong Swedish economy and a weak currency, the Riksbank is not expecting inflation to stabilise around the two-per cent target until 2019 or the repo rate to be raised until mid-2018. In order to promote inflation, the Riksbank decided in April of this year to extend its purchases of government bonds by SEK 15 billion during the second half of 2017.

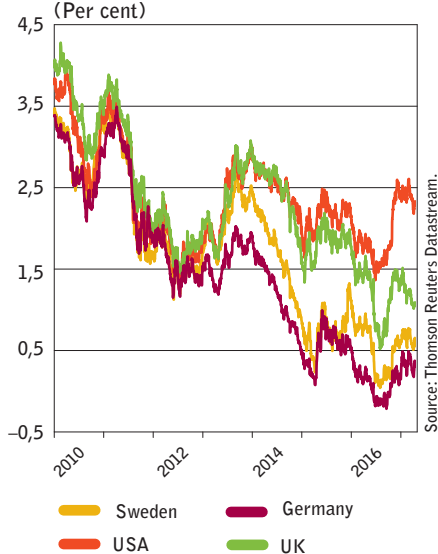
In Europe, which has long been burdened by the after-effects of the debt crisis, the economic forecasts have improved over the past six months. Unemployment has continued to fall, and confidence indicators are showing rising optimism among consumers and companies (see Diagram 2). However, the actual outcomes have not yet risen at the same rate as the optimism, and growth is weaker than in many other parts of the world (see Table 1). There are also major economic differences within the euro zone. Underlying inflation, adjusted for food and energy prices, is far below the European Central Bank's (ECB's) target of just under two per cent. In December 2016, the ECB decided to extend its bond-buying programme until December 2017, and since March of last year the ECB has left the rate for banks' deposits² unchanged at a record-low -0.4 per cent.

While Europe is showing careful signs of recover, the US economy is already booming. Growth in the USA is stable, and the US Government has promised an expansive financial policy and tax relief to further fuel the economy. Due to the economy's strong growth, the Federal Reserve (the US central bank) decided in December 2016 to begin raising interest rates. In addition to raising the policy rate to the interval 0.75–1.00 per cent in March, there are plans to raise it twice more in 2017.

1 The Swedish Economy, March 2017, the National Institute of Economic Research.

2 The interest rate on deposit facilities is the interest rate the banks receive when they place funds with the central bank. It is the policy rate that most closely resembles the Riksbank's repo rate.

4. RISING INTEREST RATES IN THE USA SPILL OVER TO EUROPE (Per cent)



RISING STOCK MARKETS AND DECLINING GROWTH IN INTEREST RATES

The US stock markets have climbed since the country's presidential election last November, and the upswing in the USA has swept along the stock markets in both Sweden and the euro zone (see Diagram 3). Rising share prices are explained in part by the strong US economy, but the prices are also based on expectations regarding US financial policy stimulants, tax cut and deregulation of the financial sector.

The long-term interest rates on the US market also rose following the presidential election last year. As a result, the interest rates in several European countries rose as well, including in Sweden (see Diagram 4). Interest rates have fallen again somewhat since then, but they are still at higher levels. If the long-term interest rates start to rise again before growth has gained speed, there is a risk that the rising interest expenses will slow down the already stressed EU countries with large debt in the public or private sector.

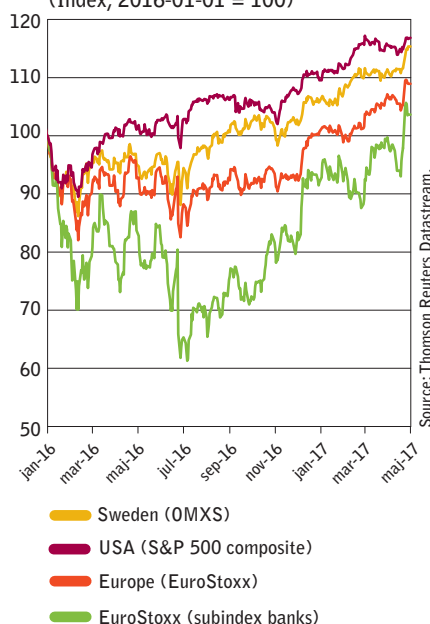
POLITICAL UNCERTAINTY CREATES ECONOMIC UNCERTAINTY

The forecasts for global growth are good, but the IMF warns that they can be disrupted by political developments. Rising uncertainty regarding foreign competition for jobs and salaries have resulted in greater protectionism and less of a focus on economic integration and free trade. Growth in world trade in 2016 was at its lowest point since the global financial crisis, and the World Bank is warning that reduced trade and capital flows could slow global growth.³ The ongoing changes in the political climate in the USA and Europe also indicate that there is some uncertainty regarding the design of economic policy and how this will affect the global economy.

Several presidential and Parliamentary elections will be held in Europe during the year, for example France, the UK and Germany. Political uncertainty has declined since the beginning of the year, particularly following the French presidential election, but political uncertainty in Europe continues to be elevated and there is a risk that this will slow economic activity. The growing influence from anti-EU parties could complicate the EU cooperation on economic and financial matters as well as the EU's ability handle economic problems in the region, introducing a risk that the EU will have difficulty taking action in the presence of shocks.

The UK formally started the withdrawal process from the EU on 29 March this year, and the negotiations will be completed within two years. Several large financial actors based out of London have begun preparations to move parts of their business back to within EU limits, if necessary. However, the uncertainty regarding the impact of Brexit on the European financial markets and financial actors established in the UK will remain for a long time.

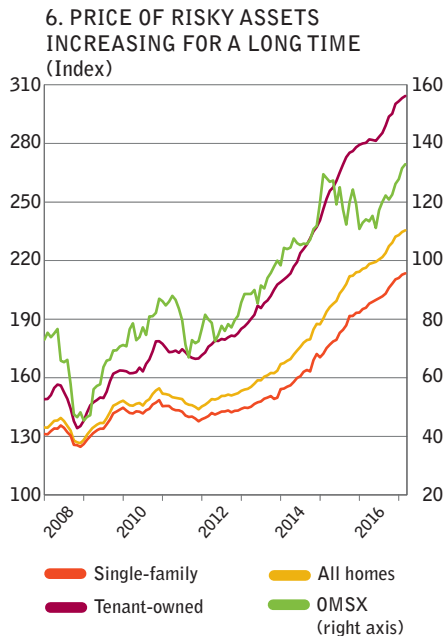
5. EUROPEAN BANKING SHARES HAVE RECOVERED (Index, 2016-01-01 = 100)



EUROPEAN BANKS ARE STILL WEAK

The slow economic growth in recent years in the euro zone has put pressure on profitability in the financial sector. This is particularly tangible in the banking sector, which is still vulnerable to shocks. Profita-

3 Global Trade Watch, February 2017, The World Bank.



Note. HOX-index, seasonal adjusted and Nasdaq OMX Stockholm (2014-01-01 = 100).

Sources: Thomson Reuters Datastream, Valueguard, FI.

bility in the banking sector has been low since the global financial crisis due to weak economic growth and a high share of non-performing loans. The low interest rates have meant lower funding costs for the banks, but also low profitability. In 2016, low capital levels in several systemically important banks resulted in faltering confidence from investors and the general public, primarily for banks in Italy and Germany, which put the banks' share prices under pressure (see Diagram 5). Since December 2016, the banking sector has gradually recovered after the Italian Government decided on a plan to save the failing Monte dei Paschi di Siena, but the banking sector continues to be vulnerable and renewed uncertainty may lead to additional confidence crises. Even if Swedish banks in many cases are not directly exposed to struggling European banks, the problems in the European banking sector could cause uncertainty and turbulence on the financial markets. Such a development could 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.

SWEDISH ASSET PRICES ARE HIGH

For Sweden, the combination of good growth and extremely low interest rates is presenting a special challenge. In an environment with both low interest rates and a strong economy, there is a risk that asset prices and debts will continue to increase rapidly. This could contribute to the build-up of imbalances and vulnerabilities, which in turn could cause stresses when the economy dips or interest rates begin to rise at some point in the future. In Sweden, share and house prices rose sharply over the past few years (see Diagram 6). The high asset prices are not necessarily unreasonable, but house prices have been rising faster than household disposable income for a long time. A price correction can trigger or deepen an economic downturn, and households with large debt may need to reduce their consumption. This in turn would further accentuate the economic downturn (see Household and corporate debt).

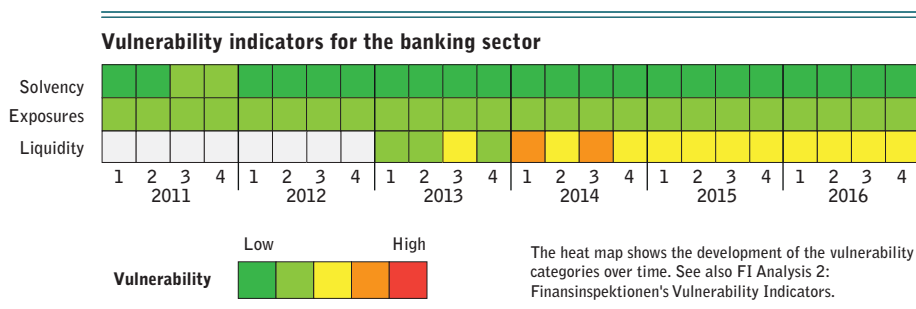
CHALLENGES IF INTEREST RATES REMAIN LOW

The low interest rates are a part of a downward trend for interest rates that began in the 1980s and was enhanced by the economic downturn following the global financial crisis. This long-term trend is due in part to changes in demography, a decrease in the growth rate of production, the widening income divide.⁴ This would mean that developed countries are facing a long period of low interest rates combined with low growth and low inflation. An extended period of low interest rates could create problems for different parts of the financial sector (see *Securities markets and insurance companies*). This also risks entrenching current problems at European banks and further weakening the sector's resilience.

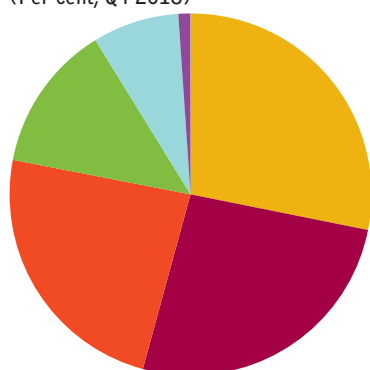
⁴ Summers, L (2014), "U.S. Economic Prospects: Secular Stagnation, Hysteresis, and the Zero Lower Bound", *Business Economics* 49(2).

Developments in the banking sector

The Swedish banking system is large and dominated by a small number of closely interlinked banks. The fact that they are also dependent on market funding makes the banking system vulnerable to disruptions. 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 reserves. As a whole, FI makes the assessment that the resilience of the major Swedish banks is satisfactory.



7. DISTRIBUTION OF BANKS ASSETS (Per cent, Q4 2016)



Source: FI.

- Lending to households 28 %
- Lending to corporates 26 %
- Financial assets 24 %
- Other assets 13 %
- Cash and balances with central banks 8 %
- Lending to credit institutions 1 %

The banks play a central role in maintaining the fundamental functions in the financial system. They help households and companies 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 do so even during economic downturns, banks must be sufficiently resilient to handle any shocks. Resilience at the banks also 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.

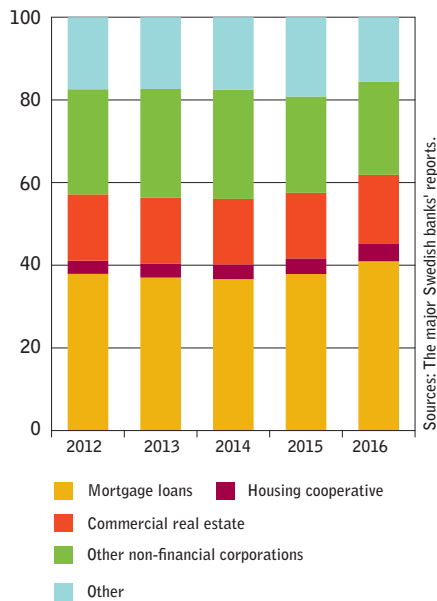
THE SWEDISH BANKING SYSTEM IS LARGE AND INTERCONNECTED.

In total, 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 85 per cent of all deposits and loans in the country. They play a crucial role in how the Swedish banking system functions, and they are considered to be systemically important. FI therefore places particular importance on its supervision of the major banks and places additional requirements on their capital levels and liquidity reserves. The fact that the banking system is concentrated to such a small number of large banks makes it more vulnerable, since problems in a major bank can lead to less than optimal performance by the financial system as a whole.

HIGH EXPOSURE TO THE PROPERTY SECTOR

Lending to households and corporates constitutes just over half of the four major banks' total assets (see Diagram 7). Approximately 85 per cent of lending to households consists of mortgages and almost half of lending to corporates goes to real estate-related operations, including

8. DISTRIBUTION OF MAJOR SWEDISH BANKS' LENDING (Per cent)



lending to tenant-owner associations (see Diagram 8). The developments within mortgages and loans to real estate companies play a central role in the banks' revenue and earnings.

FI makes the assessment that the banks' lending to households will continue to increase in the future. Together with high interest rate margins, the banks are able to report strong net interest income. Forecasts regarding economic growth and confidence indicators as well as the banks' expectations for the future indicate that lending to corporates will continue to increase in the future, primarily in Sweden.⁵

The major Swedish banks have extensive exposures to real estate companies. It is the second-largest individual exposure, after mortgages, and constitutes more than 20 per cent of the banks' total lending. The prices of commercial properties have risen to the highest levels since 2007. The banks' lending to the sector has increased as prices have risen.

In 2016, FI tightened the method the banks used to calculate the risk weights for their exposures to corporates, and the risk weights will better reflect the actual risk associated with this lending when the method has been implemented. FI expects this to reduce the variations in the risk weights calculated by the banks, both between banks and over time. In addition, the banks also fulfil the requirements that FI sets through Pillar 2. The banks are therefore working now to change their models to meet FI's limitations, which means that the risk weights, and thus the capital requirements for specific risks, will rise.⁶

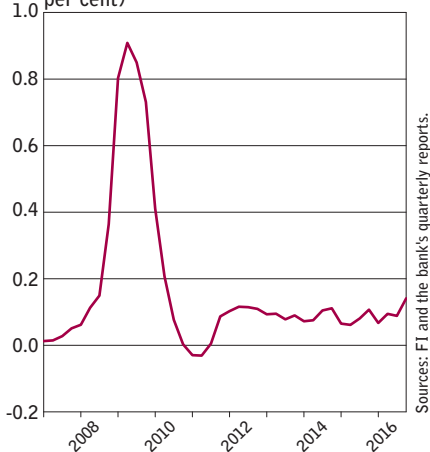
CREDIT RISKS ARE CURRENTLY LIMITED

The risk that the banks will post major credit losses on their mortgages is limited. FI's stress tests show that households are able to repay their loans and have good margins for handling a fall in house prices (see *Household and corporate debt*). The fact that a large share of the banks' assets consist of mortgages and loans to real estate-related operations also means that the assets are collateralised by homes or other properties. Collateral reduces the banks' credit risks, but can vary in quality. The prices of commercial properties are volatile and strongly cyclical; as a result, the value of the collateral can rapidly fall.

Historically, the commercial real estate sector in both Sweden and other countries has often played a significant role in major financial crises. The crisis in the 1990s was triggered by a fall in the prices of commercial real estate, and the majority of the banks' credit losses came from there. FI has not observed any signs that the banking system as a whole is taking on too much risk in its lending to real estate companies. The lending of the major banks to real estate companies in recent years has increased at about the same pace as lending to non-financial firms in general.

One important lesson from the Swedish financial crisis in the 1990s was for the banks to have more of a focus on repayment capacity and cash flow than solely looking at the property's market value. The banks'

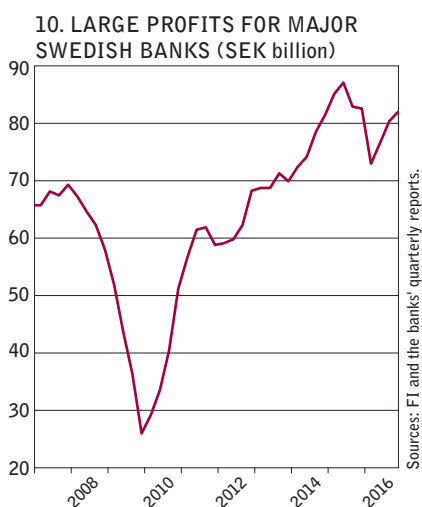
9. MAJOR SWEDISH BANKS' CREDIT LOSSES (Average, major Swedish banks, per cent)



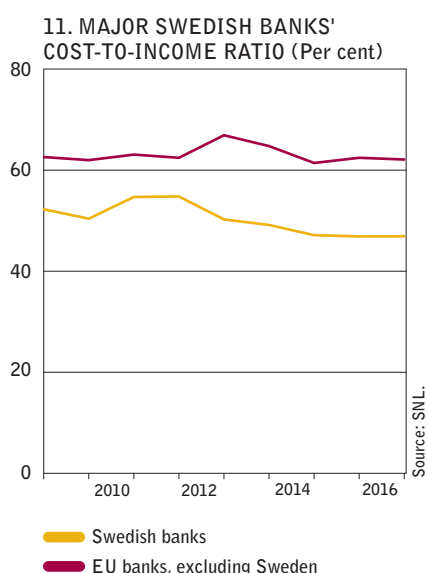
Note. Credit losses as a percentage of total lending to the private and public sectors. Unweighted average.

⁵ See, for example, Almi Loan Indicator, December 2016, Economic Tendency Survey, March 2017 and The Swedish Economy, March 2017.

⁶ For more information, see FI's *supervision of banks' calculations of risk weights for exposures to corporates* (FI Ref 15-13020) and *Pillar 2 capital requirements for maturity assumptions* (FI Ref 16-2703), May 2016, FI.



Note. Refers to the four major Swedish banks total profits after tax, i.e. net profit/loss for the year attributable to the shareholders and before paid dividends. Over the past year, the four major banks have generated a total profit of more than SEK 80 billion.



credit exposures have improved since then, with better collateral and more secure counterparties. Just like with other lending, the banks apply different rules and instructions when regulating their lending to real estate companies. These policy documents outline, for example, the collateral requirements, maximum loan-to-value ratio, minimum cash flow in relation to debt and amortisation.

The risk that the banks will report large losses on their lending to real estate companies is influenced by several different factors, for example how much the property values could conceivably fall and the size of the real estate company's loan-to-value ratio. The companies' ability to pay interest rates and amortise their loans is also crucial, as is the willingness and ability of the owners to contribute more capital if needed. A total assessment is needed in order to assess these risks, and FI has therefore intensified its analysis of this sector and is following its developments closely (see also *Household and corporate debt*).

BANKS REPORT GOOD EARNINGS AND HIGH PROFITABILITY

The banks are currently reporting high mortgage margins and commission revenue at the same time as their funding costs and credit losses are low (see Diagram 9). This means good earnings and high profitability. The banks' net interest income has continued to increase over the past six months. Net commission income has also increased, in part due to the strong development on the stock market, which boosted the banks' commission income. As a result, the banks' profits continue to be high (see Diagram 10).

Swedish banks are generally more cost-efficient than other European banks (see Diagram 11). As a result, the Swedish banks' return on equity is higher. In the next few years, the banks' credit losses are expected to be slightly higher than before. Credit losses are primarily related to lending to firms within the oil sector. The oil price fell sharply in 2014 and has remained at low levels since then, which has resulted in profitability problems for firms with oil-related operations. However, the banks' credit losses are starting from very low levels, so these losses do not affect the overall assessment that the banks have stable earnings.

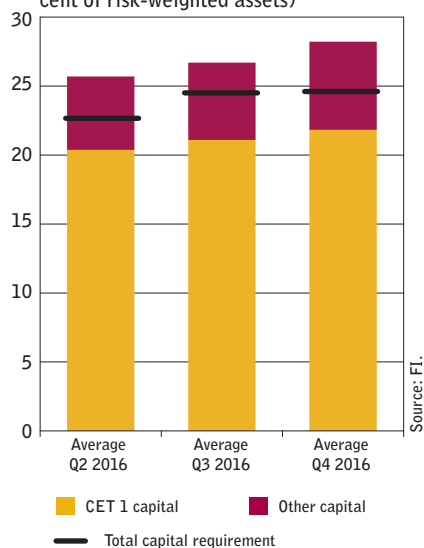
SATISFACTORY RESILIENCE

The capital requirements aim to ensure that banks have sufficient capital to handle periods of stress. 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 and others that are determined by FI.⁷

The capital requirements are broken down into 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 these requirements, there is a risk it will lose its authorisation to conduct business. Banks must also hold capital buffers, that 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.

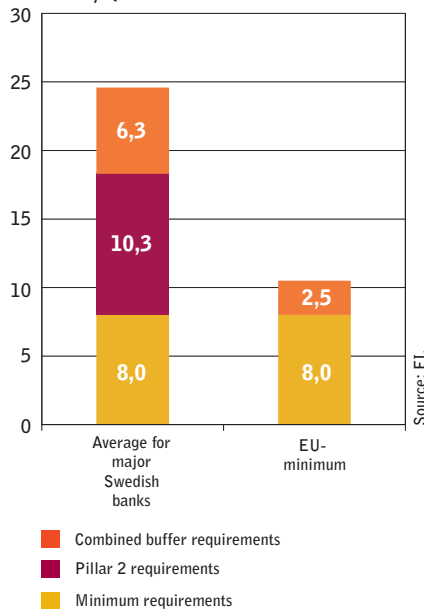
⁷ For more information about the capital requirement's components and function, see Chapter 2 of Capital Requirements for Swedish Banks, September 2014, a (Ref. 14-6258), FI.

12. MAJOR SWEDISH BANKS FULFIL THE CAPITAL REQUIREMENTS (Per cent of risk-weighted assets)



Note. The capital levels refer to an unweighted average of the four major Swedish banks.

13. THE MINIMUM REQUIREMENT IF SUPPLEMENTED WITH CAPITAL BUFFERS (Per cent of risk-weighted assets, Q4 2016)



Note. Composition of total own funds requirement as a percentage of risk-weighted assets.

Major Swedish banks fulfil the capital requirements (see Diagram 12). Own funds increased as a whole by 7 per cent during the second half of 2016, primarily due to the banks' strong earnings, and amounted to SEK 735 billion for the year. The risk-weighted assets have simultaneously decreased by 3 per cent, which as a whole means that the own funds were strengthened in relation to the risk-weighted assets in 2016, to an average of 28.2 per cent. They thereby exceed the average capital requirement for the major banks, which at the end of 2016 amounted to 24.6 per cent. The requirement has increased since June of the same year, in part because FI introduced new requirements on maturity and probability of default for banks that use internal models when calculating risk-weighted assets.⁸

SWEDISH BANKS ARE STRONG IN INTERNATIONAL COMPARISON

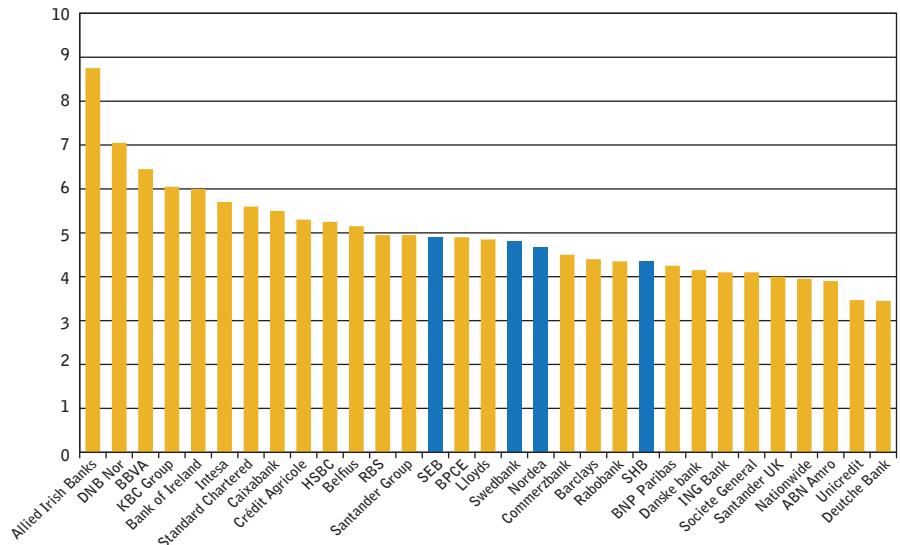
The capital requirements for the major Swedish banks are high from an international perspective, and a large percentage of the capital requirements consists of buffers in the Pillar 1 and Pillar 2 requirements (see Diagram 13). FI determines the capital requirements under Pillar 2, and these requirements under some circumstances can be considered a buffer requirement rather than a minimum requirement. For this perspective, a large percentage of the total capital requirement consists of buffers, and the Swedish buffer requirements are well above the EU minimum requirement. The high capital requirements mean that the banks are holding a lot of capital compared to other European banks measured as their common equity Tier 1 capital in relation to their risk-weighted assets. The gap to the European banks has also grown over time (see Diagram 14).

However, the leverage ratio, i.e. Tier 1 capital in relation to non-risk-weighted assets, has largely remained the same for the major Swedish banks compared to the first six months of 2016. Based on the leverage ratio, the major Swedish banks are not as high in an international comparison (see Diagram 15). The reason for this is that the leverage ratio, unlike the risk-weighted capital requirements, does not take the risk of the assets into consideration.⁹ Banks with high-risk operations and high percentages of non-performing loans therefore can appear to be well-capitalised when the leverage ratio is used as the measure. Comparisons of the measure should therefore be interpreted with a certain degree of caution. The credit losses of Swedish banks have been relatively low over the past 20 years, and a high percentage of their assets are what is typically considered to be low risk. The major Swedish banks also have large liquidity portfolios consisting of treasury bonds and other low-risk assets. A larger liquidity portfolio means that the leverage ratio will be lower. The scope of the liquidity assets (in excess of the minimum requirements set by FI) can be quickly changed by the banks, which can explain the fluctuations in this measure over time. The major Swedish banks are all well above the binding requirement of a leverage ratio of 3 per cent that the European Commission has recommended in its proposed regulatory package (see *European Commission's regulatory package changes the playing field*).

⁸ See FI's supervision of the banks' calculations of risk weights for exposures to corporates, May 2016, Decision Memorandum (Ref. 15-13020), FI.

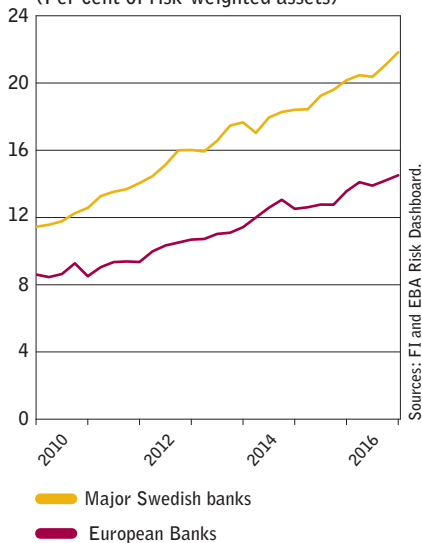
⁹ For more information about the effect of the leverage ratio requirement as a minimum requirement, See FI Analysis 7: Leverage ratio as a minimum requirement reduces banks' buffers, November 2017 (Ref. 16-16546), FI.

15. LEVERAGE RATIOS OF SWEDISH AND EUROPEAN BANKS (Per cent)



Note. Refers to fully loaded leverage ratios as an average of Q2 and Q4 2016 according to the banks' quarterly reports. Information for ING bank and Intesa is taken from investor presentations from August 2016 and February 2017.. Sources: The banks' quarterly reports.

14. CET 1 CAPITAL RATIO HAS CONTINUED TO RISE (Per cent of risk-weighted assets)



Note. Unweighted averages for major Swedish banks and median value for 55 European banks.

Sources: FI and EBA Risk Dashboard.

The total overview, taking into consideration both risk-weighted and non-risk-weighted measures as well as an international perspective, is that the resilience of Swedish banks is satisfactory. This is also evident from the vulnerability indicator for solvency in the banking sector, which has shown low vulnerability for a long time. Given that the banks' earning potential in the future continues to be favourable, the expectation is that own funds will be strengthened as well.

European Commission's regulatory package changes the playing field

At the end of 2016, the European Commission published proposed amendments to the capital adequacy regulations. Parts of this proposal entail that the Basel Agreements will be implemented in the EU, while other parts contain changes that the European Commissions has initiated in part to ensure that the regulatory framework functions in a more harmonised manner within the EU. According to the proposal, the majority of the rules will be introduced at the earliest in 2019. Negotiations are currently under way within the EU and the final design is therefore not determined.

The area that is considered to have the greatest impact on Sweden and financial stability are the changes to Pillar 2.¹⁰ The regulatory package also contains a binding leverage ratio and a minimum requirement on own funds and eligible liabilities.¹¹ Two significant amendment proposals are also the initiatives to stimulate growth in the EU and lending to small and mid-size firms, for example through the proposal to increase the supporting factor on the risk-weighted exposure amount for exposures to small and mid-size firms. FI takes the position that the risk weights and capital requirements should reflect the actual risks that companies and the financial system are taking. They should therefore not be adjusted in order to achieve commercial targets.

10 For more information about how FI handles Pillar 2, see "Large buffers increase resilience" in the report, Stability in the Financial System 2016:2, December 2016 (Ref.16-17667), FI and Chapter 3 of Interaction between the regulations on capital adequacy and crisis management, May 2017 (Ref. 17-6857), FI and the Swedish National Debt Office.

11 Total Loss-Absorbing Capacity, TLAC, is introduced in European law and integrated with the minimum requirement on own funds and eligible liabilities.

The aim of the amendments to Pillar 2 are to achieve a more unified application within the EU. The starting point for the proposal is that the risks that are linked to the actual institution should be covered by Pillar 2, while macroeconomic risks, such as systemic risks, are managed through other tools.¹² It is FI's view that the breakdown complicates and limits the handling of financial stability in countries such as Sweden, where micro- and macro-prudential supervision fall under the same authority. FI furthermore takes the position that the ongoing overview of macroprudential supervision tools should be delayed until the increments related to macroeconomic or systemic risks are removed from Pillar 2.

The Commission's proposal also entails that Pillar 2 requirements must be made through decisions for each bank, and that this introduces limitations on which information the supervisory authority can publish. The proposed amendments for Pillar 2 entail that the possibility to maintain high buffer requirements is reduced, which in FI's view could be harmful to financial stability. Given the proposed design, the capital requirement for Swedish banks would also decrease, all else equal, without changing the risk level.

MANY NEW REGULATIONS FOR THE BANKING SECTOR

After the global financial crisis in 2008, a large number of new regulations were introduced to rectify the problems unveiled by the crisis, and more changes are pending. The introduction of IFRS 9 is one of the changes that will occur in the near future (see *New accounting regulations pending*). The Basel Committee is discussing, for example, proposals on introducing limitations to the internal models and a floor for the risk-weighted assets (i.e. limitations on how low the risk weights and the risk-weighted assets may be). In parallel to this, the European Commission has published its proposal for the regulatory package that contains several major amendments (see *European Commission's regulatory package changes the playing field*).

The new regulatory proposals reduce a number of existing risks, but increase others. One example is the introduction of a binding minimum requirement on own funds and eligible liabilities. Under the new requirement banks must hold a certain level of own funds and liabilities that can be written down if the bank is entered into resolution. This ensures that shareholders and lenders bear the losses instead of tax payers, which strengthens the banks' incentives to have a more healthy risk profile. Because the banks to some extent need to fulfil the new requirement with fixed-term liabilities that continuously need to be replaced, this may mean that the banks will experience an increase in their refinancing risks (see Requirement on liabilities eligible for write-down to manage banks in resolution).

Another example are the ongoing international negotiations to implement a binding minimum requirement for the leverage ratio and changes in how Pillar 2 can be used (see *European Commission's regulatory package changes the playing field*). Both of these changes are expected to result in an increase in the share of the minimum capital requirement as part of the total capital requirements. When the minimum requirements are raised at the expense of the buffers, this results in an increase in the probability that a bank will breach the minimum

12 For example, the possibility of additional capital requirements pursuant to Article 458 of the Capital Requirements Regulation and the combined buffer requirement.

requirements. In other words, the banks are facing less of an opportunity to use capital to absorb losses during economic downturns.

New accounting regulations pending

When the global financial crisis broke out in 2008, it was obvious that the banks' financial reports did not reflect the need for reserves for credit losses, with regard to neither time nor amount. As a result, the market did not understand what was about to happen, and the accounting regulations were blamed for augmenting the crisis. In an attempt to rectify the "too little, too late" issue, the accounting regulations were reviewed, and on 1 January 2018, implementation of the new regulations (IFRS 9) will begin for banks, credit institutions and securities companies.¹³

The provisions made under IFRS 9 are to be based on expected credit losses instead of incurred losses, which enables the provisions to better predict future credit losses.

The new accounting regulations strengthen financial stability in that the banks need to make provisions during good times. This prevents rapid deterioration in the banks' profit during stressed scenarios.

The implementation of IFRS 9 means that the provisions for credit losses will rise. As a consequence, common equity Tier 1 capital for many banks will decrease.¹⁴ The provisions will also become more volatile, which means that there will be greater fluctuation in the size of own funds. This is in part because the calculation of the provisions is based on forward-looking and macroeconomic assumptions. When the risk of credit risk is elevated, the provisions should not only take into consideration if the customer is failing within a 12-month period, but rather to the entire credit's remaining maturity. This means that a significant increase in the credit risk will create cliff effects on the size of the provision. How the long-term approach to credit loss provisions is to be handled in the capital adequacy is still being discussed within the Basel Committee.

As a whole, FI views the new accounting regulations positively since they provide a more accurate and transparent overview of the firms' financial position, but they also place high demands on the banks' capital planning since volatility will increase.

Requirement on liabilities eligible for write-down to manage banks in resolution

If there is a risk that a systemically important bank will fail, the Resolution

13 Pursuant to the Annual Accounts for Credit Institutions and Securities Companies Act (1995:1559), listed groups shall apply the IAS regulation, in which it states that IFRS should be applied. Unlisted groups shall also apply the IAS regulation pursuant to FFFS 2008:25. The Basel Committee has drawn up a phase-in standard for the provisions in the capital adequacy. The European Commission has also proposed phase-in rules in the capital adequacy, as part of its regulatory package, which are currently being discussed.

14 According to the EBA's first impact assessment (the second one is not yet completed), the accounting provisions are expected to rise on average by 0.18 per cent, for European banks upon which the common equity Tier 1 capital ratio on average will fall by 0.59 percentage points, all else equal. For more information, see Report on results on the EBA impact assessment on IFRS 9, November 2016, EBA.

Act provides tools for handling this situation in a way that preserves financial stability and prevents the costs from being borne by the state.¹⁵ The resolution regulations sets forth, for example, a minimum requirement on eligible liabilities, called the MREL requirement¹⁶. Under the new requirement, banks must hold a certain level of own funds and liabilities that can be written down. The objective of the requirement is to ensure that shareholders and lenders bear the losses when a bank is entered into resolution, thus avoiding the losses from affecting taxpayers.

In February, the Swedish National Debt Office, which is the resolution authority, published a framework describing how the authority intends to design the minimum requirement for eligible liabilities.¹⁷ The requirement will be based on the risk-weighted capital requirements.¹⁸ The banks that are expected to be subject to resolution¹⁹ must hold both an amount corresponding to the losses that could be expected to arise in a crisis (loss absorption amount)²⁰ and an amount corresponding to the capital requirement that is expected to apply to the bank after resolution (recapitalisation amount). The idea is that the bank should be able to continue conducting business, despite massive losses.

The framework specifies that the recapitalisation amount is not to be covered by the same type of capital that can be used to fulfil the capital adequacy requirement, i.e. share capital. The recapitalisation amount should instead be covered by liabilities eligible for bail-in that can be written down in the event of a resolution and become share capital, i.e. the liability proportion principle. The effect of this is that the banks normally can use their buffers without breaching the minimum requirement on eligible liabilities.²¹

Since the banks to some extent need to fulfil the new requirement with fixed-term liabilities, refinancing risks will increase. The liabilities need to continuously be replaced for the banks to be able to ensure on an ongoing basis that a certain percentage are covered by subordinated liabilities. This is the primary difference compared to capital adequacy requirements, which largely must be met using capital instruments that are open term. FI will consider this refinancing risk in its supervision of the banks.

To promote financial stability, it is important for the requirement on eligible liabilities to complement the capital requirements. The capital requirements are decided by FI, while the requirement on eligible liabilities is determined

15 Resolution Act (2015:1016).

16 Minimum requirement for own funds and eligible liabilities.

17 <https://www.riksdagen.se/globalassets/pagefiles/378/tillampning-av-minimikravet-pa-nedskrivningsbara-skulder.pdf>.

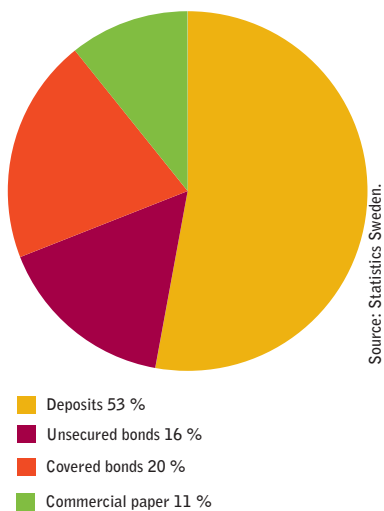
18 The leverage ratio has not been considered since requirements based on the leverage ratio have not been introduced into the regulations yet.

19 In other words, banks that cannot not be wound down through bankruptcy or liquidation without having serious repercussions in the financial system. The Swedish National Debt Office has to date determined that as a minimum the four major banks are to be subject to MREL.

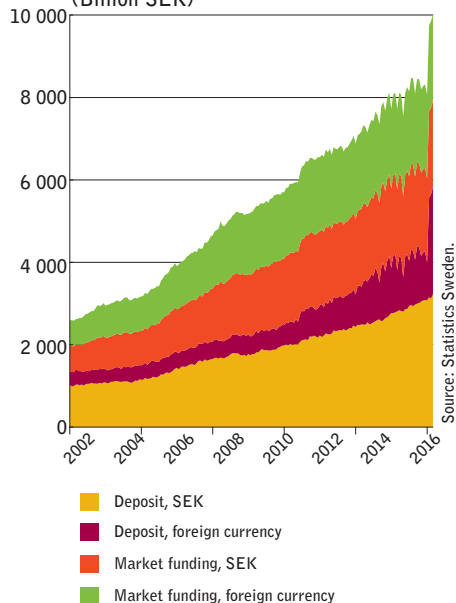
20 According to the Swedish National Debt Office, the loss absorption amount shall consist of the total capital requirement, excluding the combined buffer requirement, and the macroprudential supervision components in the Pillar 2 requirement. The recapitalisation amount shall consist of the total capital requirement excluding the combined buffer requirement.

21 The protection provided by the loss-absorbing function of the capital buffers is not unlimited. In the event of a serious refinancing problem, the buffer functionality is reduced before completely disappearing if the refinancing problems are of such an extent that the decided minimum requirement for own funds and eligible liabilities is breached.

16. MAJOR SWEDISH BANKS' FUNDING (Per cent, Q1 2017)



17. HALF OF THE SWEDISH BANKS' FUNDING IS IN FOREIGN CURRENCY (Billion SEK)



by the Swedish National Debt Office, and the two authorities have together established joint principles for how the requirements will work together.²²

The requirement on own funds and eligible liabilities is firm-specific. It will be set in accordance with the framework and then applied as of 1 January 2018. The liabilities proportion principle applies as of 2022.

BANKS' FUNDING

Swedish banks have a funding deficit

Swedish banks issue loans totalling more than what they have received as deposits, and they finance this funding gap on the financial markets by issuing covered bonds, unsecured bonds and commercial paper (see Diagram 16). A comparison between Swedish and European banks shows that Swedish banks have a larger deposit deficit. This can be explained by the fact that Swedish households choose to invest in shares, mutual funds and endowment insurances to a larger extent than households in many other countries instead of savings accounts. This means that Swedish banks to a greater extent need to fund themselves on the capital markets.

Funding in foreign currency is natural

Approximately half of the banks' funding is in SEK, in terms of both deposits and market funding, and the rest is in various foreign currencies (see Diagram 17). Since the Swedish banks have a considerable percentage of their operations in other countries, it is natural for them to have both lending and funding in foreign currencies. However, the Swedish banks also finance Swedish assets on the international capital markets, in part because this option can be less expensive, but also because it reduces their dependence on specific domestic funding markets. Some of the capital of Swedish savers is also invested in foreign assets. The Swedish securities markets would thus become smaller if all capital stayed in Sweden. This means that the banks cannot cover all their funding needs in SEK through the Swedish securities markets at a competitive cost. Instead, they issue securities in foreign currency, primarily USD and EUR, which can then be transformed into SEK through currency swaps.

High level of confidence in Swedish banks

In order for the banks to have good access to funding, both depositors and investors need to have confidence in the banks. 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 loans and other financial services. In the long run, a loss of confidence would introduce problems for stability in the Swedish financial system as well as the real economy.

Deposits in SEK derive primarily from Swedish households and are largely covered by the deposit insurance. This reduces the risk for bank-runs during a crisis, and deposits are therefore considered a stable form of funding.

Swedish banks currently have good access to market funding and their funding cost for primarily covered bonds in SEK has continued to fall, except for a period in conjunction with the president election in the

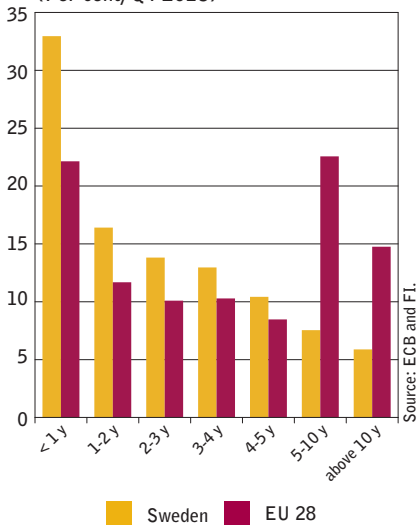
²² Interaction between the regulations on capital adequacy and crisis management, May 2017, Ref. 17-6857, FI and the Swedish National Debt Office.

18. LOW FUNDING COST FOR MORTGAGES (Basis points)



Note. Average asset swap spread for five-year covered bond benchmarks.

19. SHORT MATURITIES ON SWEDISH BANKS' SECURITIES (Per cent, Q4 2016)



Note. Major Swedish and European banks. Does not include shares and financial derivatives.

USA last year (see Diagram 18). One underlying cause behind the banks' good access to funding is that the Swedish banks are better capitalised and have higher profitability than many international competitors.

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 while borrowers may keep their loans over a longer time horizon. This maturity transformation introduces a vulnerability in the banking system since it means that the banks are exposing themselves to refinancing risks. That said, however, a banking system without maturity transformation is not desirable, since this transformation benefits both savers and borrowers.

Swedish banks are exposed 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 risks. Geographically diverse investors may also mean lower risk, since the bank is then not dependent on a few lenders or geographical markets for refinancing. On the other hand, foreign investors can be affected by shocks that are not closely linked to either the major Swedish banks or Swedish conditions in general. Banks' foreign market funding therefore could mean that uncertainty on the international capital markets may spread to the Swedish banks even though confidence in them has not waned.

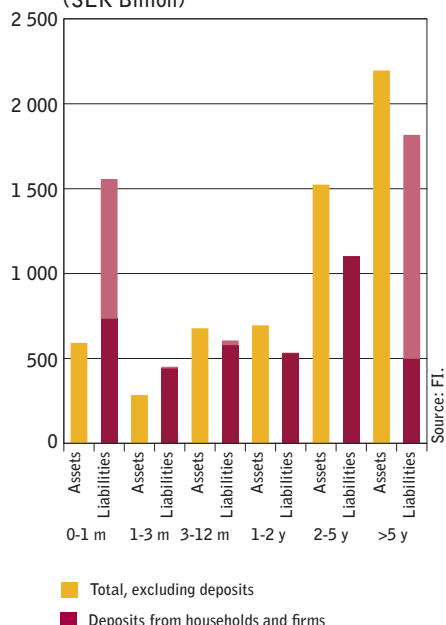
Banks' assets have longer maturity than their liabilities

The average maturity for the market funding of the major Swedish banks is just under three years, which is relatively short in European comparison (see Diagram 19). At the same time, the actual maturity of many of the Swedish banks' assets are significantly longer. This means that banks' liabilities have a shorter maturity than their assets, which is illustrated in Diagram 20. 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.

BANKS FULFIL REQUIREMENTS ON LIQUIDITY RESERVES

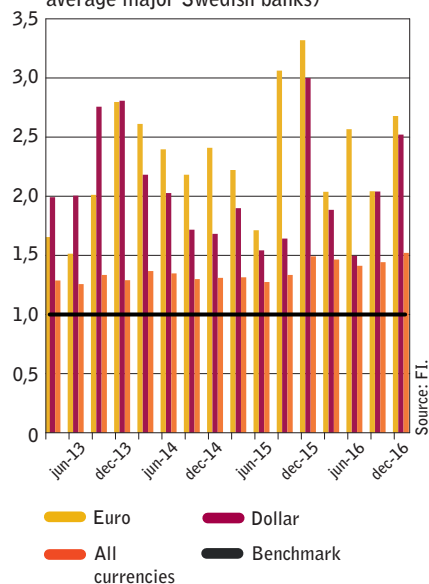
Swedish banks' liquidity and refinancing risks are considered to be a significant vulnerability in the financial system. In stressed scenarios, disruptions in the banks' funding can quickly lead to problems in the financial system. It is therefore important for the banks to hold sufficient liquidity reserves that can be used to manage such short-term scenarios. Liquidity shortages can arise in several ways, but essentially are an imbalance between inflows and outflows that is greater than the

20. BANKS' ASSETS HAVE SOMEWHAT LONGER MATURITIES THAN THEIR LIABILITIES (SEK Billion)



Note. Q4 2016. Deposits covered by the deposit insurance scheme are assumed to be stable funding, while deposits not covered by the deposit insurance scheme are assumed to be volatile. Mortgages are assumed to have an average maturity of seven years.

21. BANKS MEET LCR REQUIREMENT (Quotient value, average major Swedish banks)



Note. LCR requirement as stated in FI's regulatory code (FFFS 2012:6).

bank can cover with new financing at a reasonable cost. In order to strengthen the banks' resilience to disruptions in their funding, the Basel Committee decided in 2010 to set a requirement on the banks' liquidity reserves to ensure they are sufficient and of high quality. This requirement is called the liquidity coverage ratio.²³

FI implemented a national requirement on liquidity coverage in 2013 under which the banks must hold a liquidity reserve corresponding to at least 30-day net cash outflow under stressed conditions. The requirement applies to all currencies in aggregate as well as individually for EUR and USD since it is also important to have good liquidity management in the foreign currencies in which the banks mainly obtain funding and where the possibility of liquidity support from the Riksbank may be more limited. The Swedish banks have fulfilled the national liquidity coverage requirement since 2013 and today have a comfortable margin, primarily in USD and EUR (see Diagram 21). Even though Diagram 20 indicates that the banks have a low degree of matching between assets and liabilities in the short term, they have enough assets of good quality that can be sold in a stressed scenario to meet their net cash outflows if a disturbance occurs.

STABLE FUNDING LIMITS RISKS IN THE LONG RUN

In order for the banks to better match the maturities between their assets and liabilities, the Basel Committee has agreed on a metric called the Net Stable Funding Ratio (NSFR).²⁴ In short, the NSFR requirement means that banks must finance assets with a maturity that exceeds one year using liabilities with a maturity that also exceeds one year.

The major Swedish banks are already relatively close to the level of the planned requirement of 1.0 (Diagram 22).²⁵ Because the major banks are below the pending requirement, the vulnerability indicators for the liquidity category in the introduction to this section are signalling yellow. FI recommends that Swedish banks continue to work on extending the funding used for assets with long maturities in order to reduce the difference in maturity between liabilities and assets. All major banks have also prepared strategies for meeting the pending NSFR requirement well in advance of its planned entry into force in the EU in 2018.

THE RIKSBANK'S LIQUIDITY ASSISTANCE AS A COMPLEMENT

The banks' liquidity reserves mean that they could withstand exclusion from the wholesale funding market for a period of time. Requirements on liquidity reserves at individual firms reduce the probability that the state will need to intervene in the short term. However, in a more drawn-out, serious scenario, the authorities will probably be involved.

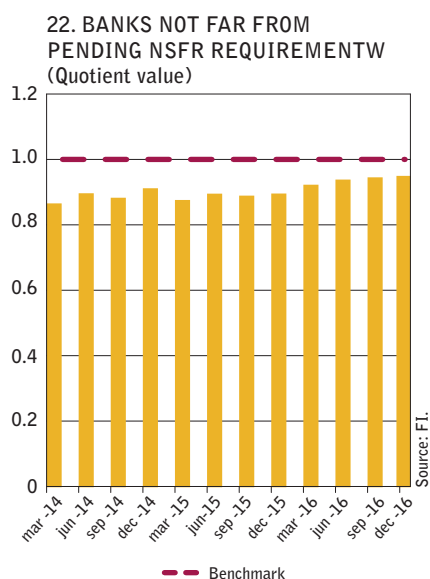
The principle for liquidity assistance from the central bank in a crisis has long been to support solvent banks and require good collateral under terms that prevent banks from drawing on this support during normal market conditions.

The challenges linked to the central bank's liquidity assistance involve

²³ Liquidity Coverage Ratio, LCR.

²⁴ Net Stable Funding Ratio, NSFR.

²⁵ The final calibration of NSFR has not yet been determined. The status of the banks today depends therefore on which definition of NSFR is used.



Note. Refers to the major Swedish banks' liquid borrowing as a percentage of their illiquid assets. The benchmark is 1.

finding a solution that complies with both the law and how banks and markets function in distress and at the same time creates good incentives for banks to handle their own risks given both normal and stressed market conditions.

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. There is a high probability that in such a scenario there will not be enough buyers on the market for the securities distressed banks need to sell from their liquidity reserves. The banks may even become, through their role as market makers, net buyers of bonds and 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 showed through its actions during the global financial crisis in 2008 that liquidity assistance measures can efficiently contribute to resolving such problems. High capital requirements (which mean that the banks continue to be solvent) and requirements on liquidity reserves in the form of assets that are eligible as collateral for loans at the Riksbank are therefore important for the efficient management of a liquidity crisis at the systemic level. The Riksbank can then take measures that generally improve liquidity, such as offering loans at longer maturities than normal and having better collateral when lending than in previous crises.

The Riksbank, thanks to its unique ability 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. The Riksbank's ability to provide general liquidity support is not regulated in the Riksbank Act. The formulation of the Riksbank's mandate within the area of financial stability also does not provide sufficient guidance about where in the Riksbank's assignment the management of financial crises is located. The Riksbank Act should be amended to expressly state that the Riksbank shall counteract shocks to the supply of liquidity and that it is expected to issue loans, buy securities, etc., in order to achieve this purpose. FI therefore welcomes the investigation into these questions through the recently started work in the Riksbank Committee.

FI intensifies its supervision of Nordea

At the end of 2016, Nordea implemented its planned restructuring as part of which the subsidiaries in Denmark, Norway and Finland were changed to branches belonging to the Swedish parent company, Nordea Bank AB. The merger was carried out without disruptions, but FI considers Nordea to have had temporarily elevated operational risks as a result of the restructuring.

The restructuring entails that FI's direct supervision responsibility for Nordea has been expanded to also include the operations of the Nordic branches. As of 1 January 2017, FI also holds primarily responsibility for the supervision of Nordea's operations in Finland, Norway and Denmark. In order to handle this extended assignment, the Government has proposed that FI be allocated an additional SEK 25 million in 2017.²⁶ This means that FI will be able to increase the scope of its supervision of Nordea, which is necessary. In practice, this means that FI will earmark additional resources for risk analy-

26 Spring Fiscal Policy Bill 2016/17:99.

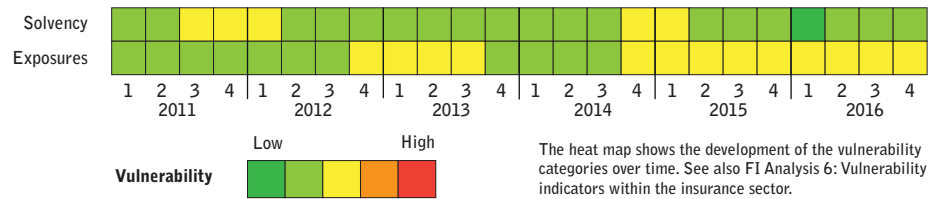
sis and coordination within Nordea's supervisory college, in which supervisory authorities from concerned countries cooperate.

Even if a large part of the supervision responsibility after the merger has been transferred to FI, the concerned authorities need to continue to work together. This is important, in particular given that the branches are systemically important in the other countries, but also because the supervisory authorities in Finland, Norway and Denmark are keeping the supervision responsibility for the mortgage institutions. The focus of FI's supervision will not significantly change. FI has already been conducting its supervision of Nordea at the group level and focusing on the group's total risks. FI will continue to work in this manner, but it will intensify its supervision and apply it with a larger scope.

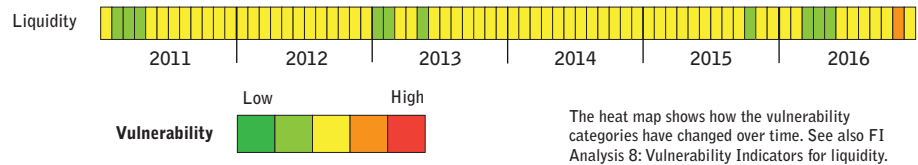
Securities markets and insurance companies

Financial stress in the securities markets has been low despite considerable political and economic uncertainty in recent years. Market liquidity currently appears to be stable, but given that the market has been relatively calm, its resilience has not been tested. There are individual indicators that point to underlying vulnerabilities in the securities markets, which makes it difficult in advance to determine how the markets will function in the presence of greater stress. The financial position of life insurance companies is strong right now, and the negative effect of low interest rates is counteracted by the strong equity markets.

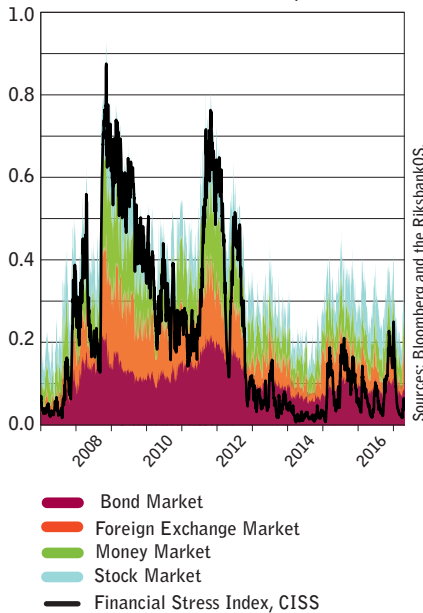
Vulnerability indicators for the insurance sector



Vulnerability indicators for the market sector



23. FINANCIAL STRESS HAS BEEN LOW (Financial stress index, CISS)



Note. The CISS stress index is developed by the Riksbank and uses a method that is similar to the method used by ECB for its European stress indices. A value of 1 indicates a historically high level of stress and a value of 0 indicates a historically low

The securities markets play an important role in financial stability. Securities markets provide the channel through which the financial system sets prices and allocates risk and capital. Highly functional markets are therefore a prerequisite for many of the financial services provided by the financial system. Markets that function well can absorb shocks, while markets that function poorly instead can amplify and spread problems. A functional financial infrastructure is a prerequisite for functional securities markets, and it is also particularly important for helping the banks to fulfil their roles as market makers²⁷.

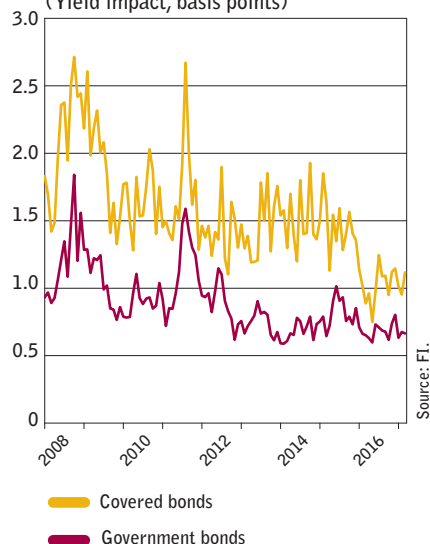
Due to their size and their long commitments, life insurance companies are also important for the securities markets. The long-term commitments of life insurance companies mean that these companies base their decisions on a long-term horizon, which can have a stabilising effect on the market and reduce fluctuations. However, these companies can also amplify market movements if they need to quickly adapt their portfolios during periods of financial stress.

SYSTEMICALLY IMPORTANT MARKETS ARE FUNCTIONING WELL

The fixed-income and foreign exchange markets are important for financial stability. It is through these markets that financial firms are able to manage their need for cash to make payments. These markets

²⁷ A market maker undertakes to provide prices on an ongoing basis at which they are prepared to buy or sell.

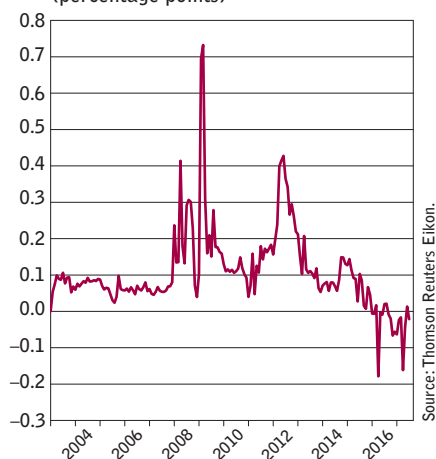
24. CONTINUED GOOD MARKET LIQUIDITY IN BONDS (Yield impact, basis points)



Note. The diagram shows the average transaction cost per month for the Swedish market for covered bonds and Government bonds. The transaction cost is measured as yield impact, which simplified is the impact a transaction has on the market interest rate. The yield impact in this chart is a derivation of the measure used in FI Analysis No. 3: Liquidity in the market for covered bonds, in 2015.

Source: FI.

25. LOW INTERBANK SPREADS (percentage points)



Note. The diagram shows the difference between 1 month STIBOR and 1 month STINA.

Source: Thomson Reuters Eikon.

are also where financial firms manage their market risk. By adapting their exposures to falling or rising market rates and foreign exchange fluctuations, financial firms can protect themselves from factors that lie outside their control and take exposures to create returns. It is therefore a prerequisite for both good risk management and investments that these markets function well.

The transactions that firms need to make to manage risks and exposures are often time-critical. From a stability perspective, it is therefore desirable for these markets to have stable liquidity, particularly during times of stress. Strong market liquidity means that market participants can easily conduct the desired transactions at a reasonable cost.

According to the Swedish stress index, the stress levels on the Swedish financial markets in general have been low (see Diagram 23). The elevated stress levels at the end of the past year are linked to temporary movements on the inter-bank market (see the box about STIBOR). Despite a period of major political uncertainty, the price volatility in most of the securities markets has been low the past year. Historically, price volatility and uncertainty follow the same trend. It is difficult to say with certainty what lies behind the trend reversal, but some organisations, for example the Bank for International Settlement, take the position that price volatility no longer functions well as an indicator of financial stress.²⁸

FI is also following a number of other quantitative indicators to assess the vulnerabilities on the systemically important markets. The markets for covered bonds and treasury bonds indicate that FI's indicators for market liquidity are currently good, see Diagram 24. One reason for this is that the banks are well-capitalised and have good access to funding. This means that they are facing good conditions for fulfilling their roles as market makers, which is evident in part by the low inter-bank spread²⁹ (see Diagram 25). The low level of the current spread indicates that confidence in the Swedish banks is high and it is easy and cheap for them to renew their funding. The extremely low levels at the end of the past two years that can be seen in the diagram are related to the design of the fees that banks pay to the stability fund and resolution reserve.

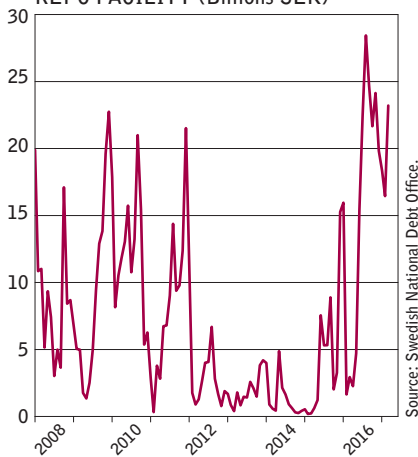
LIQUIDITY CAN DETERIORATE RAPIDLY IN THE PRESENCE OF STRESS

The fact that indicators are pointing to low financial stress and strong market liquidity is a good sign, but this does not translate directly to good resilience. Measuring liquidity under favourable conditions can be misleading since liquidity can rapidly deteriorate in conjunction with financial stress. Turnover in the Swedish securities market has been normal recently. The markets' ability to handle large flows and stress has thus not been tested. If market liquidity is insufficient, market prices may become extreme and volatility will rise, making it potentially both more difficult and more expensive to conduct business.

²⁸ Press release dated 15 November 2016: Dollar replaces VIX as gauge of banks' appetite for leverage - BIS's Hyun Song Shin <http://www.bis.org/press/p161115.htm>

²⁹ The inter-bank spread measures how expensive it is for the banks to fund themselves at a one-month maturity compared to a rate that is close to the repo rate. If the banks' funding costs rise rapidly, the spread increases. The spread also captures the market's uncertainty regarding the banks' solvency, since higher counterparty risk leads to an increase in the spread.

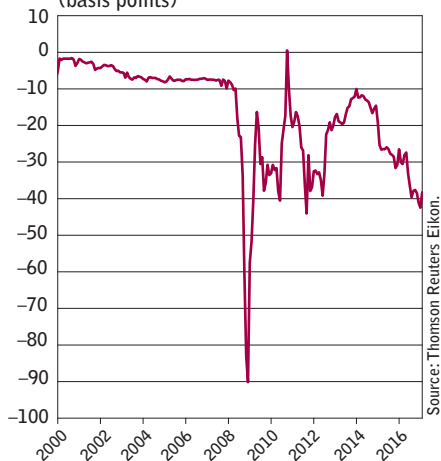
26. HIGH UTILISATION OF THE SWEDISH NATIONAL DEBT OFFICE'S REPO FACILITY (Billions SEK)



Note. The diagram shows to what extent market makers use the 1/n repo facility at the Swedish National Debt Office.

Source: Swedish National Debt Office.

27. FUNDING IN USD (basis points)



Note. The diagram shows the price for a one-year FX-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) .

Source: Thomson Reuters Eikon.

There are also individual indicators that are pointing to the sub-optimal functioning of some securities markets compared to normal. One such indicator is the market makers' greater utilisation of the Swedish National Debt Office's repo facilities³⁰ (see Diagram 26). Market makers provide liquidity in the second-hand market for government bonds and need to be able to manage both short and long positions. They do this through the repo market.

If the report market does not function well, market makers in treasury bonds can turn to the Swedish National Debt Office. The Swedish National Debt Office offers them the possibility to borrow the securities they need if they cannot find them on the repo market. Because it is typically more expensive to borrow from the Swedish National Debt Office, the banks normally avoid doing so. One reason the Swedish National Debt Office's repo facility is currently being utilised more frequently may be that a smaller percentage of the total stock is available due to the Riksbank's extensive bond-buying programme. The high level of the indicator is a sign that there may be stress in the treasury bond market if demand for safe assets increases.

Another market indicating signs of imbalances is the currency swap market. Swedish banks use foreign markets to finance just over one-fourth of their operations. Funding in foreign currency is not only used to fund foreign loans, but also to fund Swedish assets (see *Developments in the banking sector*). It is therefore important for banks to raise loans in USD that they then convert to SEK through a currency swap. It is therefore important to follow the market for currency swaps. According to financial theory, the price for converting one currency into another currency should be close to zero. In practice, however, the price is affected by both supply and demand of funding in difference currencies as well as other factors, for example the need for currency hedges. High or low prices are a sign of structural imbalances. From this perspective, the current low level (see Diagram 27) can be interpreted as an indication of a vulnerability.

Through their commitments as market makers, the banks take a greater responsibility for the liquidity in the second-hand market for treasury bonds and covered bonds than for the securities of other market participants. Covered bonds constitute a large portion of the banks' securities funding, and the banks therefore face strong incentives to maintain liquidity in the market. During previous periods of stress, the major Swedish banks have demonstrated that they are willing to build up large pools of covered bonds, for example, during the financial crisis in 2007–2008, when primarily foreign investors sold their holdings. The fact that banks are prepared to act as a buyer for a wave of sales in covered bonds is good for the market liquidity of these instruments, but it can affect the banks' funding needs and risk capacity in such a way as to make it difficult for the banks to contribute to market liquidity in other instruments. Banks' ownership of covered bonds is currently at a normal level from a historical perspective (see Diagram 28), and the banks are well-capitalised. This indicates that the banks currently have the capacity to absorb large selling flows.

30 See FI Analysis 8: Vulnerability indicators for liquidity, 2017.

RESILIENCE IN SYSTEMICALLY IMPORTANT FIRMS

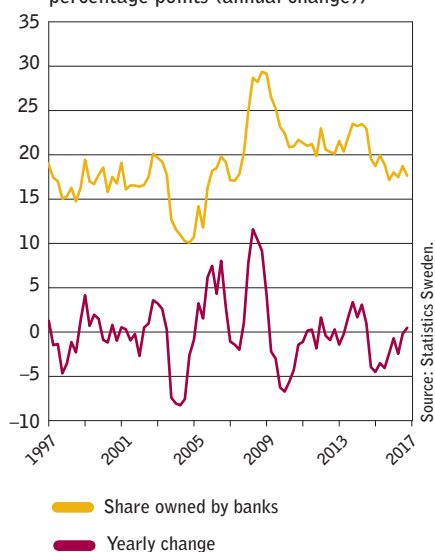
Resilience in the systemically important markets is dependent on a functional financial infrastructure. FI considers the following firms under its supervision to be systemically important:

- Euroclear Sweden AB – settlement system for securities.
- Nasdaq Clearing AB – central counterparty for financial derivatives, commodity derivatives and repos.
- Bankgirocentralen BGC (Bankgirot) – clearing of retail payments.
- Foreign infrastructure systems EuroCCP (clearing of shares) and London Clearing House (clearing of shares and interest derivatives, etc.) through international supervisory colleges.

Resilience in the systemically important derivative markets is dependent on the resilience of parts of the financial infrastructure. Requirements on central counterparty clearing for interest rate derivatives in SEK traded outside a regulated market were introduced at the beginning of the year. This changeover has been undramatic since almost all transactions were already cleared voluntarily. Requirements on central counterparty clearing are already in place for the major currencies. The expanded requirements on clearing make the central counterparties even more important in the financial system and for financial stability. Therefore, ESMA has tightened its regulations for central counterparties by, for example, authorising them in accordance with the EMIR regulation. FI has also increased its supervision of the central counterparties, see the box *More stringent requirements on derivatives and central counterparties*.

FI makes the assessment that the financial infrastructure in Sweden and the Swedish central counterparty, Nasdaq Clearing, are currently functioning well and have a high level of operational reliability, but there is room for improvement at the infrastructure firms. In terms of the regulatory framework, there are also important issues that still require decisions, such as the recovery and resolution of central counterparties. Cyber threats are another area that is of particular interest; given the digitalisation of the financial system this area is growing in importance.

28. BANK OWNERSHIP OF COVERED BONDS (percentage (share) and percentage points (annual change))



Note. The diagram shows the share of covered bonds held by Swedish banks .

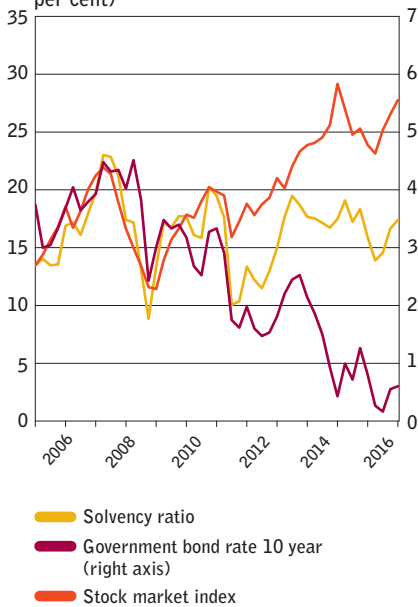
More stringent requirements on derivatives and central counterparties

The EMIR regulation was introduced after the financial crisis to increase transparency and reduce the risks on the derivatives market. This regulation primarily targets derivatives traded outside regulated markets (OTC derivatives) and can give rise to many or excessive counterparty risks. One way to counteract these risks is to require clearing at a central counterparty.

The regulation entered into force in August 2012, but requirements on clearing FRA contracts and interest rate swaps in SEK at a central counterparty went into effect first in February 2017. Initially, this applies only to the central counterparty's members, but in two years it will include all firms. The most important consequence of this clearing regulation is that the two parties completing a derivative transaction do not obtain an exposure to other another, but instead to the central counterparty.

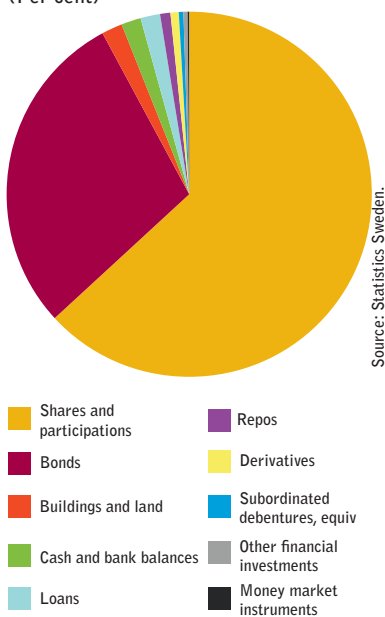
The party clearing its derivatives through the central counterparty must provide collateral to the central counterparty. Collateral decreases the central counterparty's credit risk.

30. SOLVENCY RATIOS HAVE BEEN STABLE THE PAST FEW YEARS DUE TO FALLING INTEREST RATES AND RISING STOCK PRICES (Right axis, per cent)



Note. The solvency ratio for life insurance companies which are still governed by the Solvency I regulation, in relation to the growth of a yield index for Swedish shares and the interest rate on a Swedish 10-year

31. LIFE INSURANCE COMPANIES TAKE LARGE INVESTMENT RISK (Per cent)



Note. The percentage of shares in the life insurance companies' investments amounted at the end of the year to 63%. This item includes shares in wholly owned real estate properties, unit-linked insurance assets and investments in short and long fixed-income funds. The actual asset allocation to shares in traditional life insurance management is significantly lower at just above 40%.

For derivative contracts not cleared through a central counterparty, the possibility of providing one another with collateral has been optional. In the future, it will become mandatory³¹. Counterparties will not only need to pledge collateral for daily price fluctuations, but also to cover changes in the market value over time (initial margin collateral).

Given that both the clearing requirements and the requirements on pledging collateral for non-cleared OTC transactions will now be fully implemented, the European authorities have taken measures to manage the most prominent risks from the financial crisis. This therefore reduces the risk of the emergence of problems similar to those observed during the financial crisis.

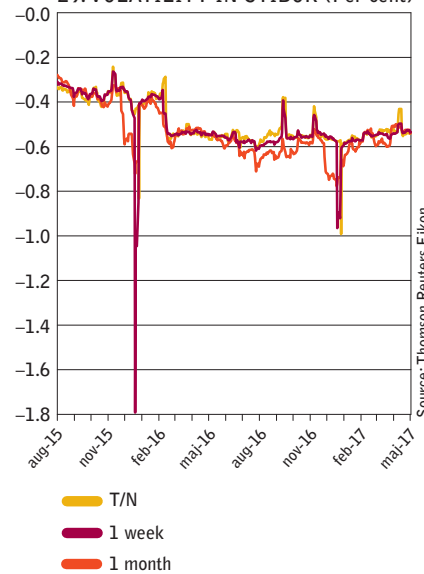
STIBOR – new regulations to strengthen credibility

Stockholm Interbank Offered Rate (STIBOR) should reflect the interest rates that the STIBOR-banks³² on average offer one another for loans without collateral in SEK. The interest rate is used as a reference rate for interest rate derivatives, bonds and loans at variable rates. The reference rate is referred to in contracts and determines how large of an amount borrowers and derivative counterparties pay one another. A fair, transparent and predictable

reference rate is therefore an important prerequisite for well-functioning financial markets.

Serious cases of manipulation of reference rates such as LIBOR and EURIBOR in recent years have given rise to extensive international regulations. In Sweden, the Swedish Bankers' Association have prepared a self-regulatory framework for STIBOR. According to this framework, the STIBOR banks' submissions should be based on stated deposit rates and an individual increment, but allows for the banks to include their own assessments, both in the stated deposit rate and the increment.

29. VOLATILITY IN STIBOR (Per cent)



Note. The diagram shows STIBOR fixings at year-end.

When the Bank Recovery and Resolution Directive³³ was implemented in Sweden in 2016, it increased the fees the banks must pay to the Government based on their balance sheets at the end of the year. The effect was particularly large in 2015/2016 when the fees for both the stability fund and the

31 Value derivatives and some Group-internal transactions are excluded.
32 Danske Bank, Handelsbanken, Länsförsäkringar Bank, Nordea, SEB and Swedbank. Since 26 September 2016 also SBAB Bank.
33 Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directive 82/891/EEC, and Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC, 2011/35/EU, 2012/30/EU and 2013/36/EU, and Regulations (EU) No 1093/2010 and (EU) No 648/2012, of the European Parliament and of the Council.

resolution reserve were determined; the stability fee has now been eliminated. Because these fees are based on the banks' revised annual accounts, this means that it became more expensive for the banks to receive deposits or raise new loans at the end of the year. In order to compensate for this, the banks adjust their deposit rates downward, which causes large fluctuations in STIBOR. At the end of the past few years, volatility increased primarily in the market for short-term interest rate instruments and currency forwards.

The events at the end of the past two years clearly show that the STIBOR framework allows the banks to largely base their STIBOR submissions on their own assumptions. These types of assumptions make the reference rate more vulnerable to manipulation. On 1 January 2018, new regulations from the European Commission will enter into force regarding reference rates, and the regulation also covers STIBOR³⁴. For example, the regulations require that administrators of benchmarks control, monitor and document how the benchmarks are determined and how the administrators manage conflicts of interest. This thus limits the possibility for administrators to make their own assessments when benchmark rates are determined, which reduces the risk for manipulation.

RESILIENCE OF INSURANCE UNDERTAKINGS IS SOUND

Insurance undertakings in Sweden manage assets totalling more than SEK 4,000 billion. Two-thirds of these assets belong to traditional life insurance management. Assets consist primarily of shares and bonds. Life insurance companies have commitments in the form of future pensions. The challenge for these undertakings is to manage their assets, liabilities and risks in such a manner as to meet their guaranteed commitments. This management shall preferably also create a surplus that can be distributed as a bonus.

The financial position of life insurance companies currently looks stable. The low interest rates have had a negative impact, but the stock market has posted strong growth. The total effect on the market has therefore been that the solvency ratios of life insurance companies have remained at stable levels (see Diagram 30).

The investment decisions of life insurance companies can enhance disruptions to the financial system if they act procyclically. When a life insurance company's financial strength declines, for example due to falling equity prices, it may need to better match the risk profile of its assets to its liabilities. This means in practice that the company will sell higher-risk assets, such as shares, and instead purchase bonds with a long maturity. When several life insurance companies take the same action, they amplify the market fluctuations (act procyclically) and thus can deepen financial crises.

Sources of procyclical behaviour

There are several factors that can contribute to procyclical behaviour by life insurance companies. One of these is that the companies normally take an active investment risk, which means they invest in assets that do not fully match the risk profile of their liabilities. The worse the financial position of life insurance companies, the larger the need to match

³⁴ Regulation (EU) 2016/1011 of the European Parliament and of the Council of 8 June 2016 on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds and amending Directives 2008/48/EC and 2014/17/EU and Regulation (EU) No 596/2014.

the risk profile of assets and liabilities in order to avoid a shortage of capital or intervention from the supervisory authority. The financial position of the life insurance companies as a whole currently appears stable. This is also reflected in the companies' asset allocation. At the end of 2016, a large percentage of the life insurance companies' investment assets consisted of shares (see Diagram 31).

Another factor that can contribute to procyclical behaviour is the design of the capital requirements. New rules have been in force since 1 January 2016 for capital requirements and the valuation of capital for insurance undertakings subject to Solvency II. The capital requirements in Solvency II are significantly more risk-sensitive than those in previous legislation. Risk-sensitive capital requirements mean that the more life insurance companies invest in shares and other risky assets, the higher their solvency capital requirement for market risks. In reverse, the solvency capital requirement shrinks given a risk-mitigating asset portfolio. Risk-sensitive capital requirements thus create incentives for the undertakings not to take excessive risk. In theory, it also creates greater room for them to manage capital losses during crisis situations, which enhances their resilience.

However, the argument has also been made that risk-sensitive capital requirements can result in financial firms still acting procyclically during crises. Even if the capital requirements can potentially shrink during a crisis when assets decrease in value, there is no guarantee that the requirements will shrink as much as the capital buffers. This will also have a negative impact on an undertaking's solvency, which could induce it to sell risky assets. The capital requirements in Solvency II are also more stringent than in previous legislation. This means that the level of losses experienced by the companies before the supervisory authorities intervene will be lower. As a result, life insurance companies may decide to change their asset allocation more often as their solvency ratio rises or falls. FI is therefore monitoring the solvency ratio of the largest life insurance companies as a vulnerability indicator (see FI Analysis No. 6: Vulnerability indicators within the insurance sector, 2016).

Not all life insurance companies are subject to the capital requirements under the Solvency II framework. Therefore, FI also monitors the solvency ratio pursuant to Solvency I as well as the traffic-light ratio for some companies that are conducting operations subject to the transition regulations up to 2019.

All solvency indicators are currently showing in general low vulnerability. The solvency ratios for the "mixed" companies³⁵ are showing a slightly higher vulnerability level than the other groups, but it is difficult to compare the companies in the "mixed" groups since the part of the operations that is subject to each regulatory framework varies in each company. It is also difficult to establish a threshold for what constitutes a high or low vulnerability level for these companies.

The low supply of bonds and derivatives that the life insurance companies can use to protect themselves from falling interest rates can also contribute to procyclical effects. In general, there is a deficit of interest-bearing assets with long maturities on the Swedish securities market

35 "Mixed" companies apply Solvency II to part of their operations (other life insurance) and the transition regulations for the remainder of their operations (occupational pension insurance).

compared to the potential demand from life insurance companies. The supply is also limited in that there are not enough market participants who would like to protect themselves against rising interest rates using derivatives. The imbalance between the size and maturity of supply and demand can be problematic when insurance undertakings' are experiencing low solvency since they may then find it difficult to fully match their liabilities and assets. This may mean that they cannot reduce their risks to the extent that they would prefer and that their capital requirements will therefore be higher. The duration deficit³⁶ indicator is currently showing a high level of vulnerability. This is due in part to the low interest rates, but also to some extent to the Riksbank's bond-buying programme, which has slightly reduced the volume of available assets. The indicator primarily reflects a structural imbalance that is not expected to disappear within the foreseeable future.

Swedish firms strong in EIOPA's stress test

EIOPA conducted a stress test of the European insurance market in 2016. The aim of the stress test was to evaluate the European insurance market's resilience to the most significant and prevalent market risks at that time. In total, 236 insurance undertakings from 30 countries participated in the test.

Five Swedish life insurance undertakings, corresponding to 75 per cent of the Swedish market, participated in the test. The stress test consisted of two macroeconomic scenarios: one in which the return on risk-free assets continued to be low while premiums on risky asset rose (double-hit scenario) and one where risk-free return continued to be low for a long period of time (low-for-long yield scenario).

The Solvency II regulations were applied throughout the stress test and even to the life insurance undertakings that are applying the transition rules for occupational pension operations. The aim was to get a risk-based result that could also be compared between the undertakings.

The results show that the Swedish undertakings in general fulfil the solvency requirement in both the base scenario and the two stressed scenarios. Swedish insurance undertakings are clearly affected by the unfavourable scenarios in the stress test, but the outcome also shows that they in general are financially strong and can handle financial shocks. However, the undertakings are also facing significant challenges in the future in terms of the persistently low interest rates and the related re-investment risks.

RISKS FOR PENSION SAVERS IN THE LONG RUN

If low interest rates persist in the long term, there is a risk that one or several life insurance companies will not be able to meet their commitments. The regulations for liability valuation are designed in part to prevent procyclical behaviour, but they have a downside in that there is a risk that pension liability will be undervalued in the presence of persistently low interest rates. This risk arises since the firms can use a macroeconomic assumption about a long-term stable equilibrium rate

³⁶ The duration deficit is calculated as the volume-weighted ratio between the duration of the outstanding stock of treasury bonds and covered bonds available on the market and the duration of the life insurance undertakings' technical provisions (see FI Analysis No. 6: Vulnerability indicators within the insurance sector, 2016).

(UFR) to value guaranteed commitments with long maturities. If UFR is above the prevailing market rates for a long period of time, it becomes increasingly more difficult to assess the life insurance companies' financial strength. There is therefore a risk that a situation will arise in which FI will be able to first intervene when it is already too late to transfer assets and liabilities to another insurance company, which then undertakes to fulfil the company's commitments. In such a scenario, the companies do not have sufficient assets for meeting their commitments.

Underestimating the pension liability could also have consequences for corporate governance. If discount rates exceed the prevailing market rates, traditional life insurance companies may offer higher guarantees for long-term pension commitments than what would otherwise be justified given market conditions. This could also affect financial stability in the long run, since solvency in the traditional life insurance industry would gradually deteriorate as the payment date for the guaranteed commitments slowly approaches over time. Several companies would then be forced to gradually sell assets with high investment risk and instead invest a larger percentage in assets with a lower investment risk.

During the year, FI has submitted feedback to the European Insurance and Occupational Pension Authority's (EIOPA) public consultation on a new method for determining UFR (see below). FI makes the assessment that the proposed method contains a reasonable balance between financial stability, consumer protection and incentives for sound corporate governance.

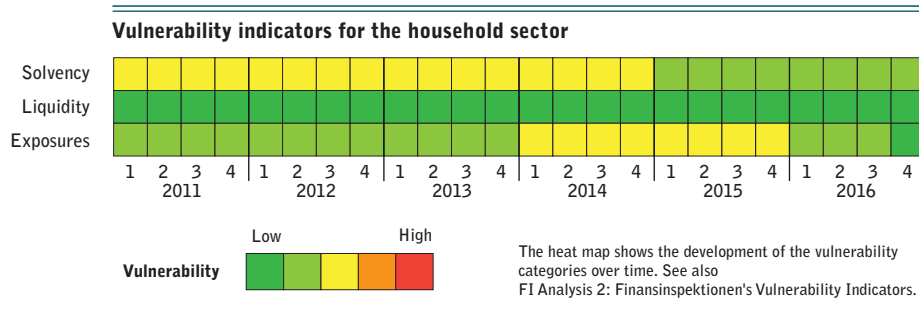
EIOPA's method for determining a long-term stable equilibrium rate

According to Solvency II, the technical provisions consist of a best estimate plus a risk margin increment. The best estimate is calculated as the present value of the expected future cash flows discounted by a risk-free interest rate. The discount rate curve's technical specifications are set out in the regulation. The rules state that the risk-free interest rate shall consist of credit risk-adjusted swap quotations, where there is market data for swaps that fulfil a number of credibility criteria. For SEK, swap quotations up to ten years are currently used. For maturities beyond the last liquid point (LLP), the interest rate curve is extrapolated using a method specified in the regulations. This method is based on an even, continuous curve that is adapted to forward interest rates so it passes through all market quotations and then converges asymptotically toward UFR. UFR consists of two components: an inflation assumption and a real interest assumption.

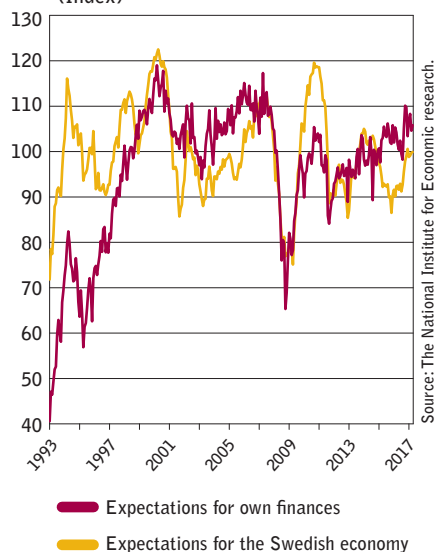
On April 5, EIOPA published a new method for determining UFR. This new method primarily introduces changes in how the real interest rate assumption is determined. According to the new method, UFR for the euro area is currently 3.65 per cent, which can be compared to today's level of 4.2 per cent. The method also specifies that UFR in the future will be calculated on an annual basis, but may be changed by at the most 15 basis points per year. If the current level of the interest rates persists, the new method would mean that it would take four years to adapt UFR to the new level of 3.65 per cent.

Household and corporate debt

The macroeconomic risks associated with a high level of household debt continue to be elevated, primarily since many mortgage holders have large amounts of debt in relation to their income. Households with a high level of debt are judged to be more sensitive to a loss of income and macroeconomic shocks. In the event of an economic downturn, they may reduce their consumption and thus deepen the downturn. The amortisation requirement FI introduced in 2016 has slowed the growth of debt among new mortgage holders, encouraged households to purchase less expensive homes and increased the resilience of households. However, given the continued existence of large, macroeconomic vulnerabilities, FI intends to introduce a stricter amortisation requirement. Given the unique economic situation, FI also considers it to be important to follow the developments on the commercial real estate market more carefully.



32. HOUSEHOLDS MORE OPTIMISTIC ABOUT THEIR OWN FINANCES THAN THE NATIONAL ECONOMY (Index)



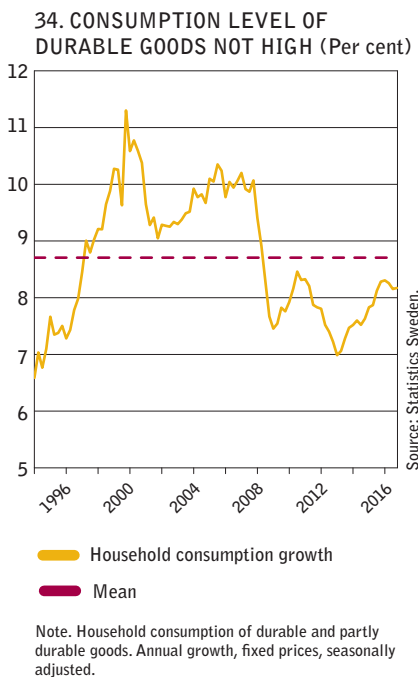
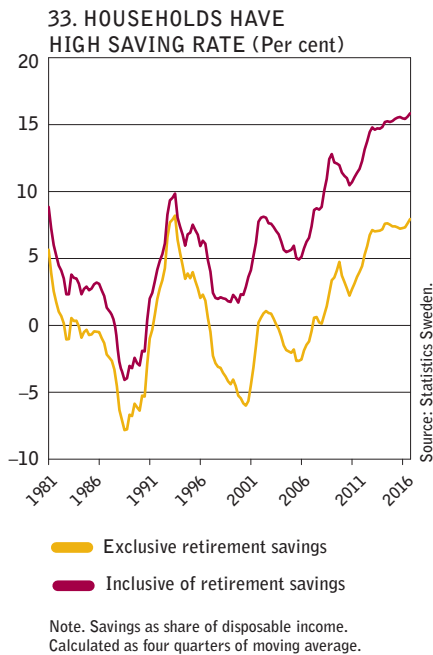
Note. Household expectations for their own finances and the Swedish economy.

The possibility of borrowing money helps contribute to a more efficient use of savings and enables both households to smooth out their consumption over out their lifetime and companies to make investments. However, a high level of debt also introduces the risk of credit losses in the banking system or the accrual of macroeconomic imbalances. FI is therefore following debt-related developments carefully and will take necessary measures to improve the resilience of companies and households to economic shocks.

The current state of the Swedish economy is unprecedented, with low interest rates, rapidly rising income, high economic growth and high asset prices (see *State of the economy*). However, this unique situation will not last forever. When the economy eventually turns, today's positive development for households could become a negative spiral with falling income and reduced wealth, for example through lower house prices. This may lead households to reduce their consumption, which would further accentuate an economic downturn and increase downward pressure on house prices.

ECONOMIC BOOM FOR HOUSEHOLDS

Households' finances have been strengthened in recent years due to good economic growth, lower unemployment, favourable developments in real wages and very low interest rates. The expectations of households about their own future finances is also at the highest level in ten years (see Diagram 32, microindex). However, the expectations of the



households about the Swedish economy is normal from a historical perspective (see Diagram 32, macroindex).

Despite optimistic expectations and high margins between income and expenses, households are currently being relatively cautious. The total household savings rate is high and has increased even more over the past few quarters (see Diagram 33). Household consumption of durable goods, which is an indicator of household optimism, is in line with the historical average (see Diagram 34).

Falling and low interest rates have strengthened household finances in recent years. A high percentage of households have mortgages at variable rates. Today, 74 per cent of the total mortgage volume consists of mortgages that have an interest rate adjustment period of less than one year (see Diagram 35). The percentage of loans with short fixed-interest terms has increased in recent years and tends to increase when the variable mortgage rate falls and decrease when the interest rates rise. In the same way as interest rate reductions have benefited household finances, future interest rate increases could have an immediate negative impact on household finances.

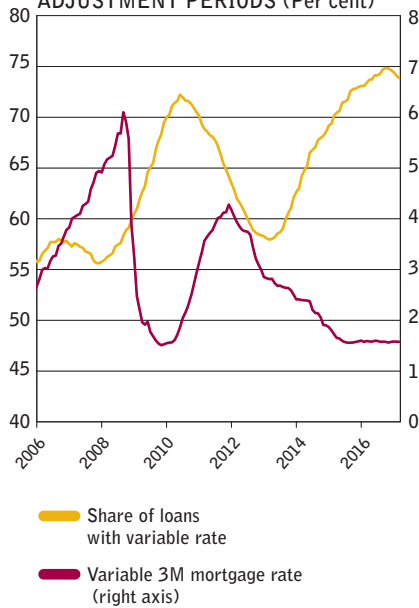
Survey data shows that households' expectations regarding the variable mortgage rate in the next one to two years have risen slightly over the past six months and that households expect a higher future mortgage rate in relation to today. In five years' time, households expect a variable mortgage rate of around 3.4 per cent. Based on the National Institute of Economic Research's (NIER) forecast for the repo rate and the banks' current margin on mortgages of around 2 percentage points, the mortgage rate will be at around 4 per cent in five years (see Diagram 36). This is a significantly higher mortgage rate than what the households are paying today, but only slightly higher than their expectations. Households' measured expectations thus seem to be relatively reasonable. At the same time, however, it is not clear to what extent households actually make financial decisions based on their measured expectations. For example, many households should be switching to a fixed interest rate adjustment period now, since it is currently less expensive to fix the interest rate for five years than to choose a variable rate during the same period. Despite this, most households are opting to keep their variable rate. Because the mortgage rate is at a record-low level, and has been low for a long period of time, FI judges the probability that mortgage rates will rise in the future to be higher than the probability that mortgage rates will fall.

ELEVATED RISK OF A FALL IN HOUSE PRICES

FI makes the assessment that the probability that prices on the housing market will fall is higher than normal. If serious shocks were to affect the Swedish economy, house prices may fall sharply. This could accentuate an economic downturn. House prices have increased by 40 per cent the past three years.³⁷ This growth reflects the high demand for housing, primarily in metropolitan areas where there is high population growth and a large shortage of housing. House prices have almost doubled over the past ten years in the country as a whole. House prices in relation to income are at a historically high level (see Diagram 37). Several international organisations have also published reports stating that house prices in Sweden are overvalued relative to fundamental factors.

37 Valueguard composite index Sweden.

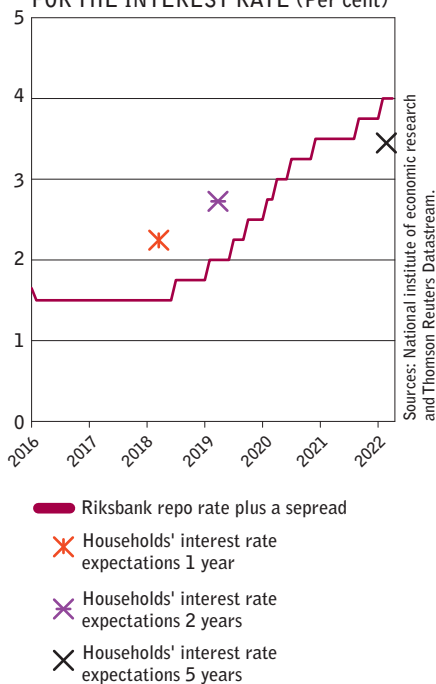
35. MANY HOUSEHOLDS HAVE VARIABLE INTEREST RATE ADJUSTMENT PERIODS (Per cent)



Source: Statistics Sweden.

Note. Share of mortgages with variable interest rate adjustment periods refers to the volume of household debt with an original interest rate adjustment period of less than one year. Variable interest rate refers to the average 3-month mortgage rate.

36. HOUSEHOLDS EXPECTATIONS FOR THE INTEREST RATE (Per cent)



Sources: National Institute of economic research and Thomson Reuters Datastream.

Note. The diagram shows household expectations for the variable mortgage rate for different periods and the NIER forecast of the repo rate plus a spread of 2 percentage points.

The IMF has stated that the ratio between income growth and house prices is currently 40 per cent above a historical average.³⁸ According to the ESRB's valuation model, house prices in Sweden are overvalued by 40–60 per cent, which is more than every other country in the EU.³⁹

The amortisation requirement has had somewhat of a slow-down effect on house prices.⁴⁰ Households that are subject to the amortisation requirement have purchased less expensive homes than what they would have done without an amortisation requirement. In Stockholm, which is affected the most by the requirement, prices have grown at a slower rate, approximately 5 per cent annually at the beginning of 2017 compared to 8 per cent in the country as a whole. After a downturn following the introduction of the amortisation requirement, households' expectations regarding house prices increased at the end of 2016 and beginning of 2017 (see Diagram 38).

New construction of homes is increasing rapidly and is at a historically high level. In 2016, construction began on 57,000 homes, of which 80 per cent were apartments in apartment buildings.⁴¹ Half of these apartments will be rental apartments. The increase in construction is the result of a pent-up need, but if supply becomes too large or targets the wrong segment, the risks may increase.

HOUSEHOLDS HAVE SOUND REPAYMENT ABILITY

FI currently makes the assessment that there are limited financial stability risks associated with household debt. FI's stress tests show that new mortgage holders as a whole have the ability to continue paying their interest rate and amortisation payments even if interest rates were to rise or income to fall (see Diagram 39). Households are also subject to far-reaching personal liability to repay their debt. Households have good margins for handling a fall in house prices since their average loans in relation to the value of the home only amounts to 58 per cent.⁴² This means that both households and banks in general have collateral that is worth more than the size of the loan, even if house prices were to fall. This reduces the risk that banks will suffer credit losses. Swedish banks also have satisfactory capital buffers if credit losses were still to arise.

At an aggregate level, FI's vulnerability indicators are showing that household debt currently does not constitute an elevated risk for financial stability. Household interest-to-income ratios and debt service ratios are low, even though debt has been rising faster than income, primarily due to the low mortgage rates. Over the past year, the average mortgage rate stayed the same, which also applies to interest-to-income ratios of new mortgage holders. At the same time, the debt service ratio increased slightly in 2016 for new mortgage holders since households are amortising more following the implementation of the amortisation requirement (see Diagram 40).

38 IMF, Sweden, Financial system stability assessment, November 2016.

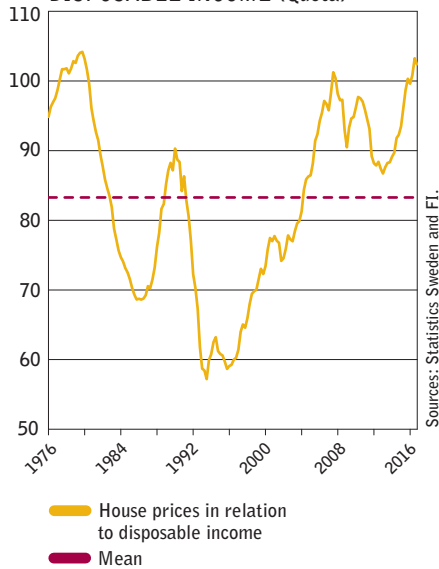
39 ESRB Risk Dashboard.

40 Finansinspektionen 2017, FI Analysis 10: The amortisation requirement has reduced household debt.

41 SCB.

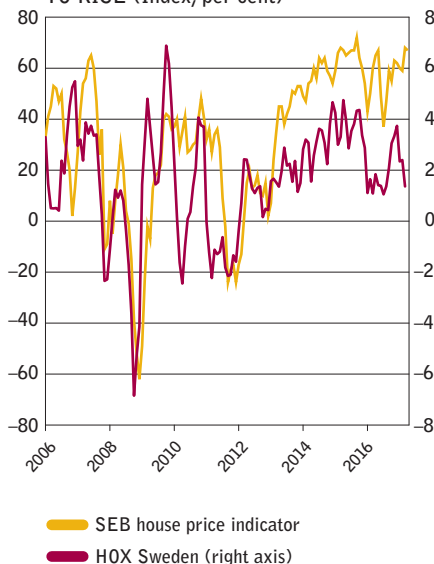
42 Refers to the stock of mortgages, volume-weighted loan-to-value ratio.

37. HOUSE PRICES IN RELATION TO DISPOSABLE INCOME (Quota)



Note. Growth of the house price index (Statistics Sweden) in relation to growth of households' disposable income.

38. MANY HOUSEHOLDS BELIEVE HOUSE PRICES WILL CONTINUE TO RISE (Index, per cent)



Note. The house price indicator shows the net number of households that believe house prices will rise or fall. Valueguard HOX Sverige show the quarterly change in prices in per cent, seasonally adjusted.

HIGHLY INDEBTED HOUSEHOLDS A VULNERABILITY

High house prices, low mortgage rates and good economic conditions mean that households are borrowing a lot. The mortgages of Swedish households amount to a total of SEK 2,944 billion.⁴³ Household debt is continuing to grow fast, and is growing faster than both household income and GDP.

According to FI's forecast, household debt will grow at a slower rate in the next few years. However, FI has adjusted this forecast upward since the previous stability report (see Diagram 41) since the growth in debt has not slowed as much as expected and house prices have increased more than expected. House prices are an important explanatory factor in FI's forecast model for debt.

Even if households are judged to be able to pay for their mortgage under deteriorating conditions, household debt still constitutes a risk for macroeconomic growth. The risks associated with the households' high level of debt are primarily related to the possibility that highly indebted households may sharply reduce their consumption in the event of an economic downturn. This could accentuate an economic downturn. There is no consensus about how to measure these risks, but the two most common methods are to measure debt in relation to the value of the home (loan-to-value ratio) or debt in relation to income (debt-to-income ratio).⁴⁴

The loan-to-value ratio is defined as household debt in relation to the market value of the home and is a measure of the resilience of a household's balance sheet.⁴⁵ The balance sheet is the overall view of the value of households' assets in relation to the households' total debt, the difference between which is net wealth. If assets fall in value, net wealth decreases since the size of the debt is not affected by the price of the assets. Households may then want to restore their net wealth by increasing their savings. When FI introduced an amortisation requirement for mortgages in 2016, households with loan-to-value ratios of more than 50 per cent were considered to create such large risks linked to consumption reduction that an amortisation requirement was justified. FI currently sees no reason to change this assessment.

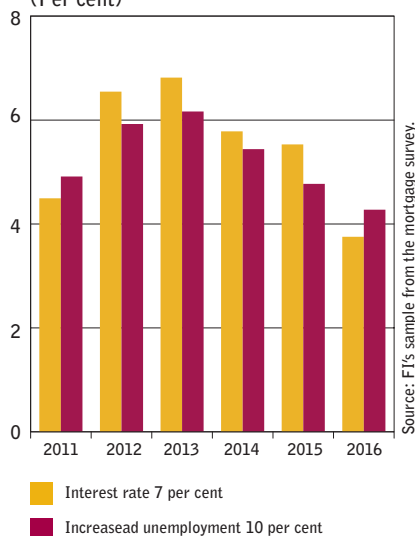
The average loan-to-value ratio in the mortgage stock, i.e. all households with mortgages, has decreased in recent years, and a similar trend has been noted among new mortgage holders. During the period 2002–2010, average loan-to-value ratios rose from 60 to 70 per cent for households that took new mortgages. Since FI implemented the mortgage cap in 2010, the average loan-to-value ratio has been stable and even decreased slightly (see Diagram 42), but there is still a high percentage of households that take new mortgages and have a high loan-to-value ratio. In the 2016 mortgage survey, 72 per cent of households with a

43 March 2017.

44 Baker (2014) shows, for example, that US households with high debt-to-income ratios reduced their consumption more than other households during the financial crisis in 2007–2009. The study also shows that households with a high loan-to-value ratio reduced their consumption more than other households. However, Andersen et al (2016), in a study of the consumption reduction in Denmark during the financial crisis, shows that it was the increase in the debt-to-income ratio before the crisis rather than the level of the debt-to-income ratio itself that was the determining factor behind the reduction in consumption.

45 Ideally, such an indicator would also measure households' financial assets, but this type of statistics is not available for individual Swedish households.

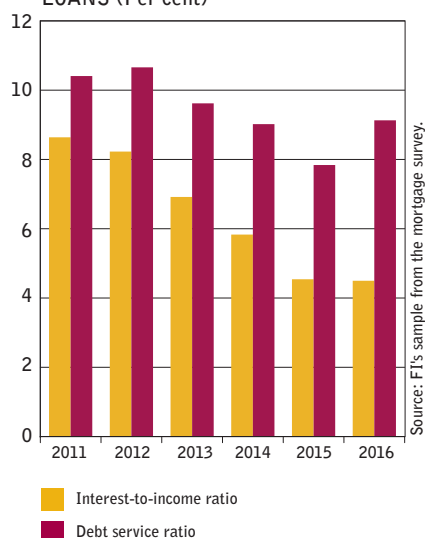
39. SHARE OF HOUSEHOLDS WITH A DEFICIT IN A STRESSED SCENARIO (Per cent)



Note. Share of households with a deficit between income and expenses in a stressed scenario of a 7 per cent interest rate and 10 per cent unemployment.

Source: FI's sample from the mortgage survey.

40. INTEREST-TO-INCOME RATIO AND DEBT SERVICE RATIO, NEW LOANS (Per cent)



Note. Shows interest rate payments and the sum of interest rate payments and amortisation payment as a share of household disposable income. The payments are based on the interest rate and amortisation amounts established when the loan was granted.

Source: FI's sample from the mortgage survey.

new mortgage had a loan-to-value ratio of more than 50 per cent compared to 76 per cent in 2015. Approximately 68 per cent of the debt volume belongs to households with a loan-to-value ratio greater than 50 per cent. Many Swedish households are thereby relatively highly leveraged in relation to the value of the home.

During economic downturns, there is a tendency for not only house prices to fall but also the value of other assets, such as shares, which represent a high percentage of households' aggregate savings. Since households' assets and debt have grown faster than their income, the size of their balance sheets in relation to their income has increased (see Diagram 43). This means that households may need to make considerable adjustments if they want to restore their net wealth following a potential downturn in asset prices. Households' large balance sheets, therefore, make them more vulnerable to synchronised downturns in prices of houses and financial assets. Currently, the prices of both houses and financial assets are high from a historical perspective, which leads FI to the assessment that there is an elevated risk of a sharp fall in asset prices. In the event of such a downturn, highly indebted households with large balance sheets may experience significant reductions in their net wealth, which could result in a sharp reduction in their consumption and in turn further accentuate the downturn.

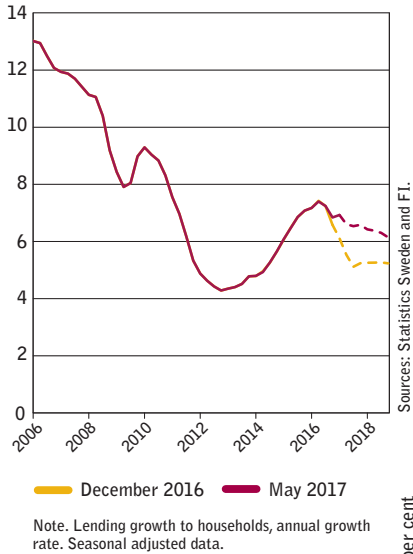
The debt-to-income ratio is defined as a household's debt in relation to its income and is thus a measure of the vulnerability of the household's cash flow to a loss of income and interest rate increases. A household's cash flow provides an overview of its income and expenses. The higher its debt in relation to its income, the larger the share of the income that is used to make interest and amortisation payments. If interest rates rise or a household suffers a loss in income, the cash flow is impaired and the household may be forced to lower its consumption or savings. The cash flow perspective indicates that a higher level of debt in relation to income (debt-to-income ratio) is most relevant as a risk measure, which is also the conclusion drawn by Bunn and Rostom (2014) for the UK.⁴⁶

Rapidly rising house prices have meant that households are loaning more in relation to their income. For households with new mortgages, debt in relation to income has increased over a period of several years. However, in 2016 the debt-to-income ratio for new mortgage holders stabilised at 400 per cent (based on the household's net income) (see Diagram 44). Both the debt-to-income ratio for households that have mortgages and the aggregate debt-to-income ratio for all households have increased over the past few years (see Diagram 45). As a whole, there continues to be a high percentage of households that have high debt-to-income ratios.

Even if the amortisation regulation to some extent has reduced the vulnerabilities, FI views the development of high and rising debt-to-income ratios among many households combined with the unique macroeconomic situation to be a cause for concern, FI makes the assessment that the macroeconomic risks associated with a high level of debt are elevated.

⁴⁶ Bank of England Quarterly Bulletin Q3 2014, Household debt and spending.

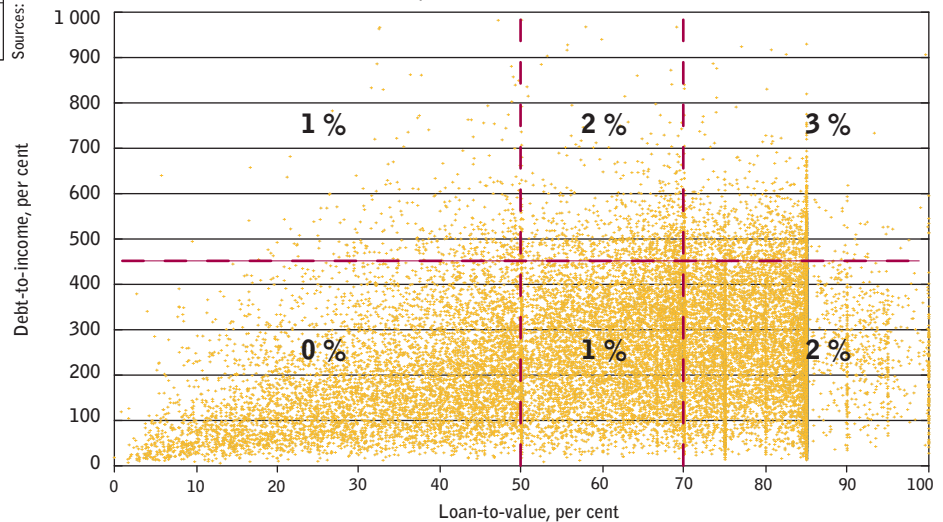
41. HOUSEHOLDS DEBT GROWTH ARE EXPECTED TO DECREASE (Per cent)



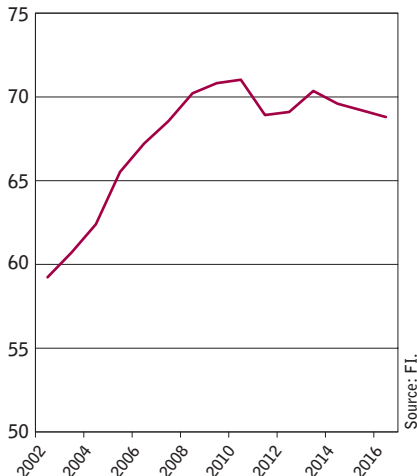
FI INTENDS TO INTRODUCE STRICTER AMORTISATION REQUIREMENT

FI intends to introduce a stricter amortisation requirement that targets households with high debt-to-income ratios. This requirement would entail that households with debt-to-income ratios in excess of 4.5 times their gross income must amortise one per cent in addition to the amortisation rate that applies in accordance with the existing amortisation regulations (see Diagram 46).⁴⁷ This requirement is judged to be implementable within the framework of the existing authorisation for the amortisation requirement.

46. RATE OF AMORTISATION GIVEN THE DEBT-TO-INCOME RATIO AND LOAN-TO-VALUE RATIO (Quota)



42. LOAN-TO-VALUE RATIO HAS LEVELED OFF (Per cent)



Note. Loan-to-value ratio as a share of the market

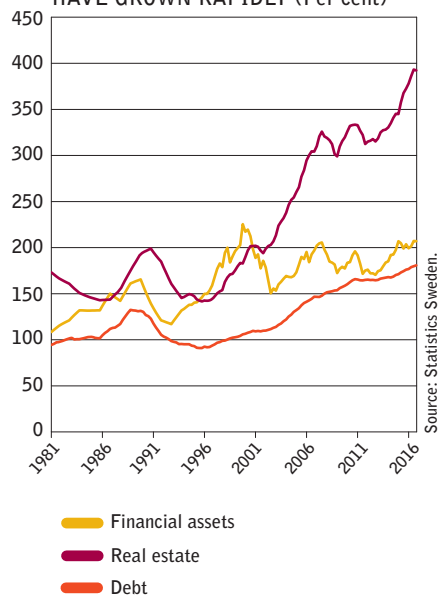
The stricter amortisation requirement is an extension of FI's measures to manage the risks associated with a high level of household debt. These measures aim to ensure that households and banks are sufficiently resilient to different types of disruptions. In 2010, FI introduced a mortgage cap. FI also strengthened banks' capital and liquidity, and as part of this work raised the risk weights for banks' mortgages on two occasions. FI also introduced an amortisation requirement on 1 June 2016. There are not currently any regulations that target households' debt-to-income ratios. Both the mortgage cap and the current amortisation requirement are based on the value of the home. The stricter amortisation requirement thus complements previous measures.

Based on today's conditions, the stricter requirement is judged to have an impact on approximately 14 per cent of new mortgage holders.⁴⁸ If house prices continue to rise at a rapid pace, however, more will be affected in the long run. The households that will primarily be affected include households in Stockholm, younger households, single-person households and households with higher income. A stricter amortisation requirement will probably result in households taking on smaller mortgages and purchasing less expensive homes. Highly indebted households will also reduce their debt faster over time. The regulation is therefore expected to lower the share of households with high debt and reduce the households' vulnerability to macroeconomic shocks.

47 FI Analysis 11: Consequences of a stricter amortisation requirement, 2017.

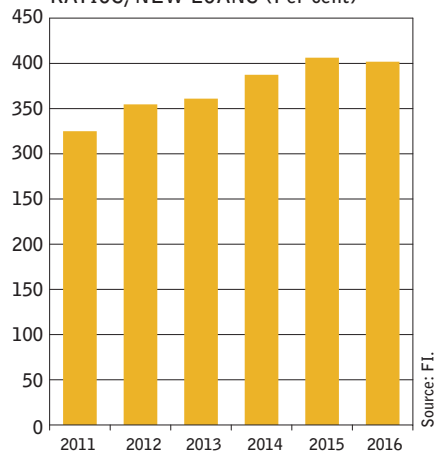
48 Refers to new mortgage holders in 2016.

43. BOTH ASSETS AND DEBTS HAVE GROWN RAPIDLY (Per cent)



Note. Household debt and assets as a share of disposable income.

44. AVERAGE DEBT-TO-INCOME RATIOS, NEW LOANS (Per cent)



Note. The debt-to-income ratio is calculated as the total debt (mortgages, credit card debt and consumer loans, but excluding student loans) divided by disposable income. Refers to the arithmetic mean.

Comparison of debt-to-income regulations

FI has previously analysed the effects of a debt-to-income cap, which limits how large a household's debt may be in relation to its income. Such a cap would prevent households from borrowing more in relation to their income. However, under this type of "hard" debt-to-income cap⁴⁹, some households would be limited by the cap even though they have the economic means to handle the debt. FI has therefore also analysed different ways to design the debt-to-income cap in order to allow a certain percentage of households to be granted loans despite the fact that their debt-to-income ratios exceed the cap (see FI Analysis 10: Amortisation requirement reduced household debt, 2017). This type of flexibility, however, would not have the same impact on all banks. Banks with a high percentage of customers in metropolitan areas, and subsequently a large number of borrowers with high debt-to-income ratios, are affected more than other banks. A flexible debt-to-income cap therefore risks giving some banks a competitive advantage.

FI has also studied a regulation that would limit the mortgage to a percentage of income. This alternative introduces a risk that unsecured loans households take in conjunction with the purchase of a home would double.⁵⁰ FI considers such an increase in unsecured loans to be disadvantageous.

As a whole, FI makes the assessment that a stricter amortisation requirement fulfils the purpose of slowing the growth of debt-to-income ratios, and it is also associated with fewer disadvantages than the other alternatives.

The stricter amortisation requirement is linked to the size of the loan a household takes in relation to its income, i.e. the debt-to-income ratio, and is based on both the value of the home and the household's income. This allows FI to further strengthen the resilience of households in that the requirement includes an increasing number of households if house prices and debt continue to rise at a faster rate than income.

It is also important to note that a debt-to-income regulation in the form of a tightened amortisation requirement only refers to new mortgage holders. FI's measures cannot resolve the fundamental problems on the housing market. In order to prevent rapidly rising house prices and debt from leading to major imbalances, measures are also needed in other policy areas.

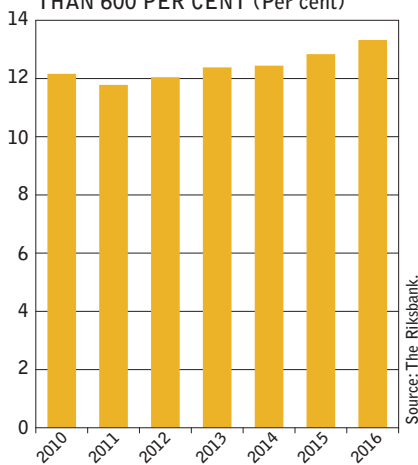
CORPORATE DEBT

Non-financial firms play a central role in macroeconomic development. In order to be able to make investments and conduct other activities, firms are dependent on external financing. They can finance their operations with equity or borrowed funds, i.e. loans of some type. If disrup-

⁴⁹ A flexible debt-to-income cap would allow a certain percentage of loans to exceed the debt-to-income cap, for example a maximum of 15 per cent of the new loans may be issued to households that have a debt-to-income ratio that exceeds 600 per cent. The countries that have introduced a debt-to-income cap in recent years, e.g. the UK, Ireland and Norway, have chosen a flexible debt-to-income cap.

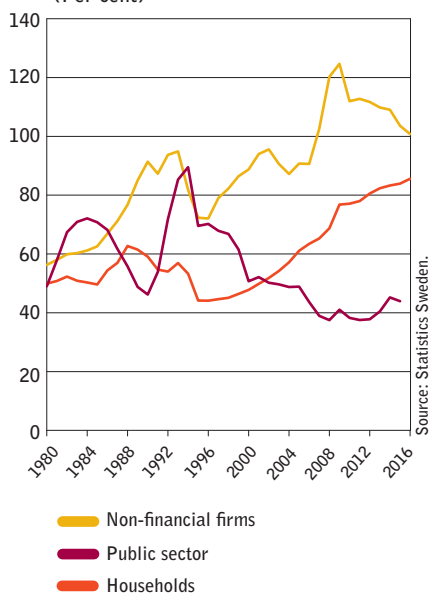
⁵⁰ Approximately 0.5 of the total lending for purchasing a home are unsecured loans according to the mortgage survey (only includes unsecured loans in the same credit institution as the mortgage and is therefore an estimation). This would result in an increase to 1.1 per cent according to FI's calculations

45. SHARE OF HOUSEHOLDS WITH MORTGAGES THAT HAVE A DEBT-TO-INCOME RATIO GREATER THAN 600 PER CENT (Per cent)



Note. The debt-to-income ratio is calculated as total debt (mortgages, credit card debt and consumer loans, but excluding student loans) divided by disposable income. Data from July each year.

47. DEBT AS PERCENTAGE OF GDP (Per cent)



Note. Consolidated debts as percentage of GDP.

tions arise, the firms' investments and other activities may decline and economic activities may therefore deteriorate.

Corporate debt can also cause losses for the banks and other financial firms that have lent money to the firms if the firms have problems making their interest and amortisation payments. Non-financial firms can therefore affect financial stability. Their financing structure may also contribute to the build-up of imbalances in the financial markets.

Greater lending and easier loans

Corporate loans are heavily influenced by the economy. They therefore generally grow at a more irregular rate than household debt. Corporate debt measured in relation to GDP is currently high, even if the ratio has decreased slightly the past few years (see Diagram 47). This decrease is largely due to changes in the regulations regarding intra-Group loans. Banks' lending to non-financial firms increased in Q4 2016 by approximately 4 per cent on an annual basis. FI's forecast shows that the lending rate will continue to increase slowly to approximately 6.6 per cent in mid-2018 (see Diagram 48).

Larger firms usually find it easier to generate financing and have access to more financing possibilities than only bank loans. According to the Economic Tendency Survey, both larger and small firms currently find it easy to access financing compared to several years ago. Because interest rates are currently low, the lending cost for the firms is also low. The difference in lending cost between larger and smaller firms has declined in recent years. At the same time as the banks' lending to corporates increases, financing via bonds and commercial paper is also increasing.

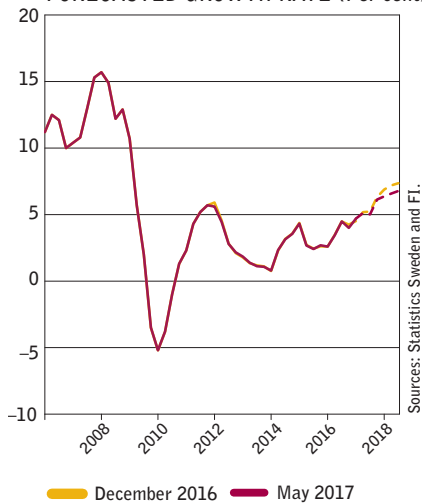
Favourable conditions for real estate companies

The property market, somewhat simplified, can be divided into two main segments: homes and commercial properties. Commercial properties include offices, retail venues and logistics, warehousing and industrial premises. This category also includes special properties, for example hospitals and schools or other properties used for public activities. The Swedish market for commercial properties is large. It amounted in 2016 to approximately SEK 1,700 billion, which corresponds to approximately 40 per cent of the GDP.⁵¹ This is a significantly higher share than in many other EU countries. The transaction volumes on the Swedish market are also large. There are a number of different investors: pension funds, insurance companies, real estate companies (private and public) and private equity companies. They have different business models and different levels for e.g. the loan-to-value ratio, interest coverage ratio, amortisation levels and cash flow in relation to debt. The share of foreign investors is relatively large. Since 2000, international buyers on average have represented 25 per cent of the transaction volume.

The economic conditions for real estate companies are currently beneficial. The economy is strong and employment in the service sector is growing. There is high demand for premises in attractive locations, which has led to very low vacancy rates and, subsequently, rising rents. The risk-free interest rates have fallen to record-low levels, which has lowered funding costs and direct return requirements for commercial properties. The difference between the direct return and the long-term treasury bond rate (the risk premium that investors want to have to invest in properties) is at an all-time high. As a result, an increasing

51 Real Estate Indicator 2016.

48. DEBT GROWTH LEVEL
NON-FINANCIAL FIRMS WITH
FORECASTED GROWTH RATE (Per cent)



49. DEBT IN RELATION TO NET
OPERATING INCOME (Quota)



Note. Real estate companies' interest-bearing debt divided by net operating income (rent minus operating and maintenance expenditure). In term of real estate companies on Nasdaq OMX Stockholm Large Cap.

50. LOAN-TO-VALUE RATIOS OF
REAL ESTATE COMPANIES (Per cent)



Note. In term of real estate concerns on Nasdaq OMX Stockholm Large Cap.

number of firms are seeking out the commercial property market. These economic conditions have also resulted in rapidly rising property prices.

The low interest rates and rising property prices have meant that real estate companies need to borrow more. They are not only using bank loans, but also issuing more corporate bonds. From only representing a low percentage of the listed real estate companies' interest-bearing liabilities, bonds now represent approximately 15 per cent.⁵² Another instrument that has become more important during the same period is preferential shares.

Commercial real estate companies are sensitive to fluctuations

The commercial property market is normally more cyclical than the housing market. Historically, the commercial real estate sector has often played a significant role in major financial crises. The crisis in the 1990s was triggered by a fall in the prices of commercial real estate, and the majority of the banks' credit losses came from there. Commercial property is owned primarily by firms, and if these firms go bankrupt, the lenders take over the problems.

The total debt of real estate companies has increased rapidly the past two years. After having been relatively stable for a five-year period, the liabilities of listed real estate companies in relation to their net operating income (income minus operating and maintenance expenses) are now at the highest level since 2005 (see Diagram 49). This means that firms' debts have increased at a higher rate than the firms' net operating income. The cash flows of commercial real estate companies are also volatile, and there is also a refinancing risk since the loans often have a shorter maturity than the asset. If the economic conditions were to rapidly change, the situation could therefore deteriorate quickly.

However, the average loan-to-value ratios of listed real estate properties, measured as debt divided by the market value of the property, have gone down somewhat in recent years and are now below the historical average (see Diagram 50) This is because the market value of the properties has increased more than the firms' debt. The economic conditions for real estate companies are currently very favourable, and the real estate companies are reporting strong earnings and payment capacity. The net operating income of listed real estate companies is relatively high, which means that there are margins for managing both interest rate payments and amortisation payments. The companies' income is on average three times the size of the interest rate expenses, but interest rates are historically low and debt large, which means that the interest coverage ratio can quickly deteriorate if interest rates rise.

As a whole, FI makes the assessment that the risks on the commercial real estate market may be elevated and is therefore enhancing its analysis of the non-financial firms, with a particular focus on the commercial property sector.

52 Catella CREDI, March 2017.



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