FINANSINSPEKTIONEN

Stability in the Financial System

28 November 2019

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Foreword

In recent years, we have experienced a historically unique situation, where a strong economy has existed side by side extremely low interest rates. It is often during such periods, when most things are going well and growth is high, that risks can build up in the financial system. This is what happened prior to the crises in the 1990s and 2008. Not surprisingly, prices of shares, homes and other real estate have increased in recent years, as have debt and risks in the financial system.

The economy has now slowed slightly, both globally and in Sweden. Interest rates have also continued to fall in 2019. What can we expect when one risk-driving component – strong economic growth – disappears while the other – low interest rates – is expected to remain at a very low level? The result can be somewhat like trying to balance on a sagging wire. If the economy were to deteriorate sharply, the vulnerabilities that have been building up over a period of several years would be revealed, resulting in bankruptcies, credit losses, falling prices, and, in a worst-case scenario, turbulence in the financial markets. On the other hand, weaker but more stable economic development with persistent low interest rates could continue to push asset prices upward and fuel the hunt for yield.

From our perspective, we see clear risks associated with continued low interest rates. Extremely low interest rates, year after year, can begin to be perceived as normal. In more concrete terms, it is about the banks' growing lending. This means that borrowers who already have a lot of debt borrow even more and thus become more vulnerable. Pension companies, like other investors, increase the risk in their investments. In an environment with long-term low interest rates, a sharp fall in asset prices could lead to solvency issues among these companies. This could result in them finding it more difficult to meet their obligations to future pensioners. This is why Finansinspektionen (FI) is working to increase resilience in the financial system. We are tightening the capital requirements on banks' lending to commercial real estate. We are working to ensure that pension companies have capital requirements that reflect their risks, and we are continuing to monitor risk-taking in the financial markets.

FI's work rests on three objectives: creating awareness about risks, being observant about what is happening, and, last but not least, building resilience to be able to withstand unpleasant surprises – because no one can predict the future.

Stockholm 28 November 2019

Erik Thedéen

Director General

Summary

Interest rates have been low for many years, both globally and in Sweden. The low interest rate level has led to greater risk-taking among various actors. For example, insurance undertakings invested in more illiquid assets, such as real estate. The investments in corporate bond funds have also increased, at the same time as the share of corporate bonds with lower credit ratings is increasing. The greater risk-taking has contributed to the upward pressure on prices of shares and other financial assets as well as homes and real estate. Households and firms have also taken out larger loans. Commercial real estate firms in particular have a lot of debt, and they are also sensitive to higher interest rates. If problems arise, this can lead to significant credit losses at the banks.

Lower economic growth could now slow risk-taking, but expectations that interest rates will remain low creates incentives in the opposite direction, which could lead to even higher asset prices and debt. If participants on the market were to suddenly become less willing to take risks, for example due to a sudden slow-down in the economy and serious problems at already weak European banks, this could cause prices to drop sharply in the financial markets. In turn, this could lead to more credit losses and higher borrowing costs for Swedish banks. This could also lead large investors, for example insurance undertakings, to adapt their investment portfolios and thus further exacerbate the fall in prices. In the long run, such a course of events could threaten financial stability in Sweden.

Swedish insurance undertakings have had stable financial positions for a long time. Their resilience still appears to be good, but FI makes the assessment that this in part is due to the solvency regulatory framework not fully reflecting the risks associated with today's very low interest rates. FI considers the insurance undertakings' resilience to have decreased, and prolonged low interest rates could lead to solvency issues and a greater risk for procyclical behaviour during periods of greater uncertainty in the financial markets.

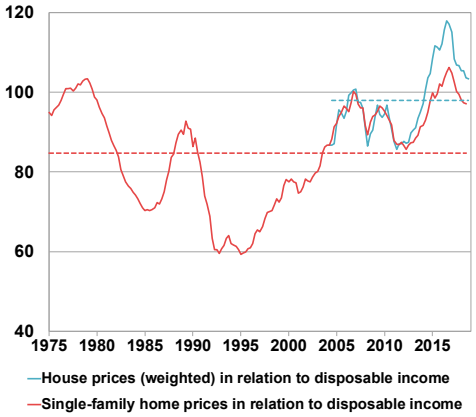
FI considers the resilience of the major Swedish banks to be satisfactory in general, with adequate capital and liquidity buffers. The banks have good profitability, but this could deteriorate when economic growth slows. However, a considerable amount of the banks' lending is to the commercial real estate sector. FI considers this sector to be vulnerable, and, in the presence of extreme financial stress, it could cause significant credit losses for Swedish banks. In the presence of such stress, the capital held by the banks to cover risks in their lending to commercial real estate could be lower than the losses they may incur. FI therefore proposes an additional Pillar 2 capital requirement that corresponds to the difference between a risk weight specified by FI and a bank's actual average risk weight for such exposures. These specified risk weights have been set at 35 per cent for a bank's corporate exposures collateralised by commercial real estate and 25 per cent for corporate exposures collateralised by commercial housing properties.

Threats to financial stability

The global economy has slowed. However, interest rates are expected to remain low for a long time, which could contribute to continued high risk-taking. Several shocks could threaten financial stability in Sweden, for example a sudden slow-down in the economy and greater pressure on weak European banks.

1. House prices continue to be high in relation to income

Index, 1980=100

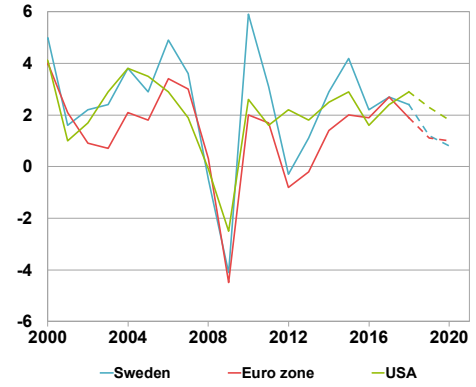


Source: Statistics Sweden and Valueguard.

Note. House prices for single-family homes and tenant-owned apartments in all of Sweden and real estate price index for permanent single-family homes. The ratio of prices for single-family homes in relation to disposable income has a one-quarter lag due to the delayed release of the statistics. Dashed lines refer to average for the periods 2005–2019 and 1975–2019, respectively.

2. Economy slows

Annual GDP growth, per cent



Source: NIER.

Sweden is a small, open economy where economic growth is greatly influenced by external factors. The financial system in Sweden is also closely interconnected with the global financial markets. FI's work aims to increase the resilience in the financial system and better equip it for handling any shocks. This chapter describes some of the shocks that could threaten financial stability in Sweden.

HIGH RISK-TAKING CAN HAVE RESULTED IN THE BUILD-UP OF VULNERABILITIES

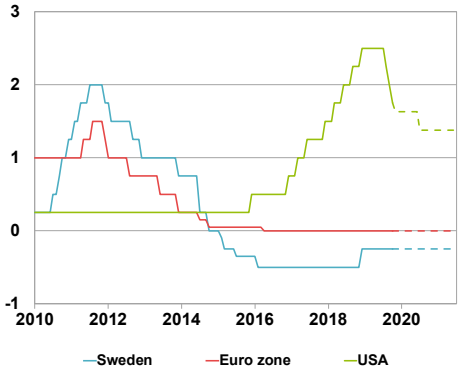
Interest rates have been low for many years, and since the financial crisis they have continued their downward trajectory and today are very low. This has helped the economic recovery, but at the same time it has created an environment of high risk-taking among various actors. This environment may have fostered the build-up of financial vulnerabilities in different ways. Investors have sought out riskier assets to obtain a higher return, which has applied upward pressure to shares and other financial assets (see "Stability in the financial markets"). Prices for commercial real estate and homes have also been pushed upward for a long period of time (see "Corporate and household debt"). House prices fell in 2017, but since then they have begun to slowly increase again. In relation to household income, prices have fallen since mid-2017, but they are still higher than the historical average (Diagram 1). Many households and non-financial corporations have also taken on a lot more debt, which could make them more vulnerable to a future crisis (see "Corporate and household debt").

ECONOMY SLOWS AND INTEREST RATES EXPECTED TO REMAIN LOW

The global economy has had good growth for several years, but economic growth has now slowed. The National Institute of Economic Research (NIER) makes the assessment that growth will slow in the coming year in Sweden, the USA and the euro zone (Diagram 2). Since the previous stability report, several central banks have shifted to a more expansionary monetary policy, and higher policy rates appear to have been postponed (Diagram 3). Market rates have also fallen sharply for some time (Diagram 4). Many market participants also expect that the low interest rates will remain for a longer time period, which presents a challenge for, in part, insurance undertakings, since they need to achieve a return that exceeds their guarantees to their beneficiaries (see "Stability in the insurance sector").

Slower economic growth is not necessarily a threat to financial stability, but rather a natural part of the business cycle. However, both

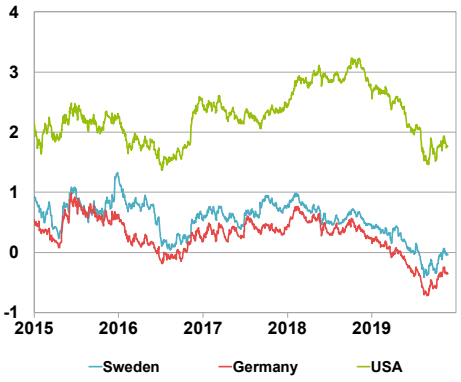
3. Higher key interest rates may be delayed
Per cent



Source: Refinitiv Datastream and Refinitiv Long-Term Economic Outlook.

Note. The refinancing rate is shown for the Euro zone. Dashed lines refer to the forecasts of bank analysts. The forecasts are based on Refinitiv Long-Term Economic Outlook, median.

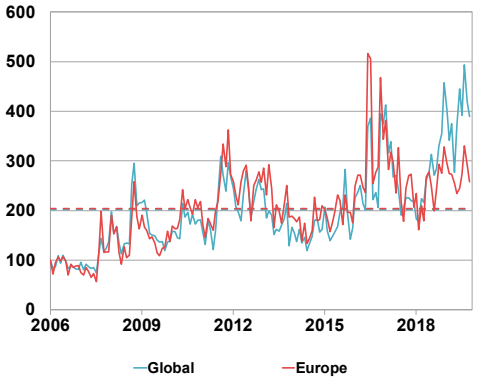
4. Government bond rates have fallen sharply
Per cent



Source: Refinitiv Datastream.

Note. 10-year government bond rates.

5. Political uncertainty continues to be elevated
Index, January 2006=100



Source: Economic Policy Uncertainty.

Note. The Economic Policy Uncertainty Index is based on the occurrence of certain expressions in national news articles of various countries linked to economics, policy and uncertainty. The global index includes nineteen countries. The European index includes France, Germany, Italy, Spain and Great Britain. The dashed lines refer to the average since 2006.

asset prices and debt have increased rapidly in recent years since economic growth has been strong and interest rates low. A shift to slower economic growth but with continued low interest rates could therefore reveal vulnerabilities that may have built up. Borrowers may have difficulty managing their debt, and investors may have underestimated the risks in their portfolios during the favourable economic conditions of the past few years. Lower economic growth should therefore have a restraining effect on risk-taking, but the opposite incentives are also created given the continued low interest rates, and a continued hunt for yield could lead to a further rise in asset prices and debt.

GLOBAL UNCERTAINTY CONTINUES TO BE ELEVATED

Political uncertainty continues to be high, both globally and in Europe (Diagram 5). The trade conflict between China and the USA increased in intensity during the summer, but then subsided again. If the parties do not successfully reach a final agreement, this could slow global growth even more.

The uncertainty surrounding the UK's withdrawal from the EU is still present. The most crucial impact on the Swedish financial system in the short term is considered to be related to London Clearing House Ltd (LCH), since it will become an actor conducting business from a third country. A transition solution is in place but only applies until the end of March 2020.[1] An extension is likely on its way. It is also difficult to determine the extent to which financial markets will react to a hard Brexit.

The uncertainty surrounding weak government finances in several countries in the euro zone, including Italy, is still present. The European banking sector is closely linked to this uncertainty since the banks hold large posts of government bonds. Several banks have strengthened their balance sheets in recent years, and the number of non-performing loans has decreased. However, several weaknesses remain, for example continued low profitability, and this is reflected in the market value of many European banks, which is lower than their book value per share (Diagram 6).

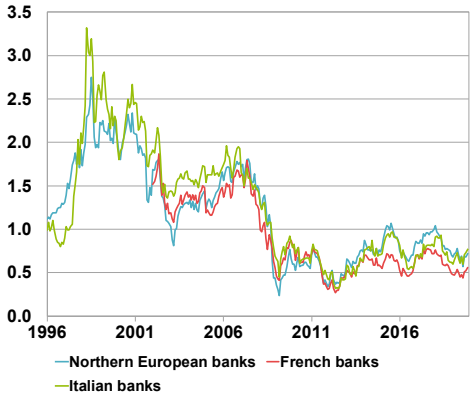
SHOCKS CAN CAUSE RAPID REASSESSMENT OF RISK

Even if policy rates are still low, there are several conceivable shocks that could reduce the willingness to take on risk. As a result, investors might sell risky assets and seek more secure investments. If these kinds of adaptations were to happen quickly and on a broad scale, this could lead to significant price falls and make it difficult for firms and banks to secure financing.

One example is if the European economy were to slow rapidly at the same time as European banks are placed under pressure and there is a significant increase in the uncertainty related to government finances in the more leveraged economies in the euro zone. In such a scenario,

1 The European Securities and Markets Authority (ESMA) and the European Commission approved in March 2019 the temporary continued use of British central counterparties in the event of a hard Brexit. For more information, see the EUR-Lex website: https://eur-lex.europa.eu/eli/dec_impl/2018/2031/oj and https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2019.095.01.0009.01.ENG

6. European banks' market values have fallen
P/B ratio



Source: Refinitiv Eikon.

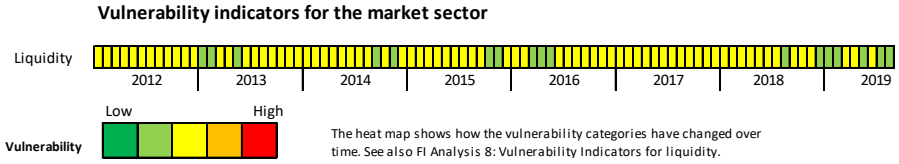
Note. P/B ratio stands for Price-to-Book, i.e. the share price divided by the book value per share. "Northern European banks" refers to Commerzbank, Deutsche Bank, ING and KBC. "French banks" includes BNP Paribas, Crédit Agricole and Société Générale. "Italian banks" refers to Intesa Sanpaolo, Mediobanca and Unicredit.

the Swedish financial system and the Swedish economy would also be affected, resulting in rapidly rising risk premiums, increased financial stress, and a weaker economy. In a worst-case scenario, this could reveal domestic vulnerabilities and lead to increased credit losses and higher borrowing costs for Swedish banks, primarily if problems also arise on the housing and real estate market. Given the limited manoeuvrability for monetary policy stimulants, banks may need to transfer the increase in costs to their customers at the same time as non-financial corporations' market financing also becomes more expensive. In turn, this could further restrain economic activity and lead to even larger credit losses.

Falling asset prices can also lead to insurance undertakings and occupational pension institutes needing to sell risky assets on a large scale, which in turn could amplify the fall in prices and exacerbate the development in the financial markets. Even if the Swedish financial system in general is resilient, there are a number of potential scenarios in which interacting factors could threaten financial stability in Sweden.

Stability in the financial markets

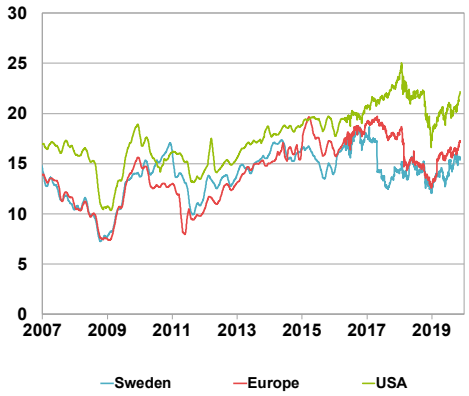
A prolonged period of low interest rates has contributed to greater risk-taking as investors hunt for yield. This can have led to the build-up of vulnerabilities in the financial markets. FI considers there to be a higher risk than normal that investors might make rapid adjustments, and this could result in a fall in prices and turbulence.



The financial markets contribute to the allocation of risk and capital in the economy. In order for the financial system to be able to maintain its fundamental functions, the financial markets therefore need to function well, even during periods of financial stress. FI considers the fixed-income and currency markets to be the most important for financial stability. It is through these markets that financial firms manage both their need for cash to make payments and many of their market risks.

One condition for ensuring that the financial markets function well is the presence of sufficient market liquidity. This means that it should be possible to make transactions in the financial markets without there being a noticeable impact on prices. FI uses a number of quantitative indicators to capture vulnerabilities relevant for liquidity in the fixed income and currency markets.[2] As a whole, the indicators show that vulnerability in the currency and fixed income market is low. However, this could change quickly. A strong shock could contribute to a deterioration in liquidity.

7. Stock market valuations once again high
p/e ratio



Source: Refinitiv Eikon.

Note. p/e stands for Price/Earnings and refers to the price per share in relation to earnings per share for companies on the US, European and Swedish markets. 30-day moving average.

LOW INTEREST RATES AND LOW STRESS CONTINUE TO MARK FINANCIAL MARKETS

A prolonged period of low market interest rates, low stress and favourable economic conditions has contributed to investors seeking riskier assets in their hunt for yield. This is evident, for example, in that stock market valuations, more specifically P/E ratios, continue to be high in Europe and the USA. The valuation in Sweden is just over the historical average (Diagram 7).[3] It is also evident in falling risk premiums and that investors have turned to assets they previously did not invest much in, for example corporate bonds with lower credit ratings.

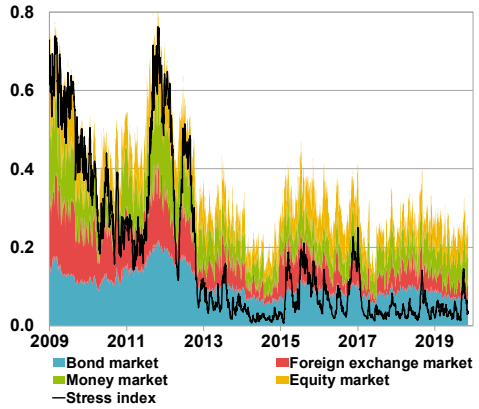
There are several studies showing that periods of low volatility and low stress lead to greater optimism among investors, which in turn leads to greater risk-taking. Prolonged periods of excessive risk-taking

2 For more information, see Finansinspektionen (2017), "Vulnerability Indicators for Liquidity", FI Analysis 8.

3 A historic average of the P/E ratios from 2004-01-02 to 14/11/2019. The historical average for Sweden is 14.4 per cent, for Europe 14.2 per cent, and for the USA 17.6 per cent.

8. Low financial stress in Sweden

Ranking (0=low stress, 1=high stress)

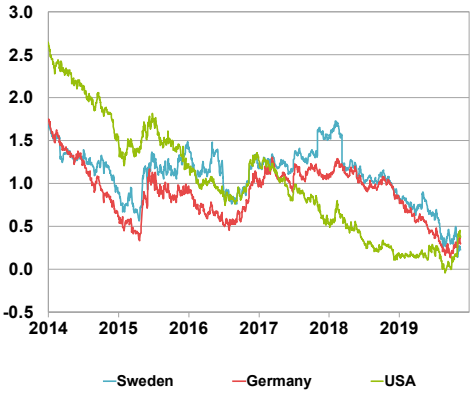


Source: Bloomberg and Sveriges Riksbank.

Note. The Swedish stress index was created by Sveriges Riksbank using a method similar to that used by the ECB for the European stress index. See Johansson and Bonthron (2013), "Further development of the index for financial stress for Sweden", Economic Review 2013:1. Sveriges Riksbank. Last observation 2019-11-14.

9. Interest rates expected to be low in the near future

Percentage points

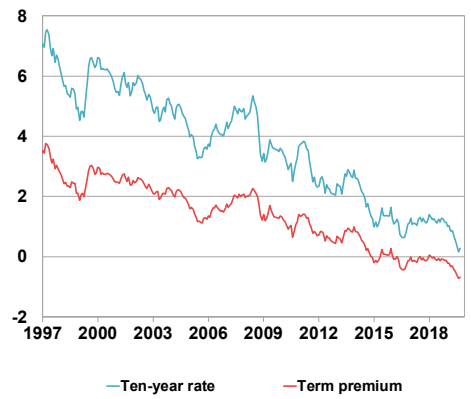


Source: Refinitiv Datastream.

Note. The slope of the yield curve, the interest rate differential between government bonds with maturities of 2 and 10 years in each country.

10. Negative term premium in Sweden

Per cent



Source: Refinitiv Eikon and FI's own calculations.

Note. Monthly swap rates from the Swedish market with maturities between 1 and 10 years, and STIBOR with maturities of 1 month, 3 months and 6 months.

can create the type of vulnerabilities that have previously contributed to financial crises.[4]

The Swedish financial markets are currently functioning well, and stress levels are low (Diagram 8). However, it is often during periods of strong financial conditions that vulnerabilities build up. During the summer, the stock markets in the USA and Europe reacted to the political uncertainty and downward revision of growth forecasts, with rising volatility as a result. Swedish share prices fell as forecasts for the global economy were downgraded, but they rose again after the summer.

In conjunction with concerns about the economy, many central banks made their monetary policy even more expansionary (see "Threats to financial stability"). Expectations of continued expansionary monetary policy resulted in a sharp fall in government bond rates the past year, which has led to an unusually flat slope on the yield curves (Diagram 9). This is an indication that the market is also expecting interest rates to remain low for a prolonged period of time, and it could also be interpreted as investors expecting a weaker economy.

RISK PREMIUMS CONTINUE TO BE LOW

Returns on government bonds with long maturity are now very low, and investors are not being compensated for those investments. The term premium for Swedish swap rates[5] is negative and has been since October 2014 (Diagram 10). A negative term premium can be interpreted as investors being willing to pay a premium to lock in a long-term return. This way they can protect themselves against long-term low inflation or deflation. An analysis by FI indicates that the term premiums are primarily influenced by international market rates. This means that foreign macro events, for example a sudden increase in inflation, would affect Swedish term premiums more than, for example, less expansionary monetary policy in Sweden. An unstructured and abrupt increase in international market rates could thus lead to significant higher term premiums in Sweden.[6]

Risk premia for corporate bonds are also lower than what they were at the beginning of the year in Sweden, the euro zone and the USA (Diagram 11). The willingness of investors to take on risk and the high demand for corporate bonds has resulted in cheap financing for firms.

The return on corporate bonds is also currently low. This is due to both relatively low risk premiums but also the very low risk-free interest rate. This means that investors receive very little compensation for taking on this risk, which could be one of the factors behind why an increasing number of investors are turning to assets with lower credit ratings that give a higher absolute return but with higher risk.

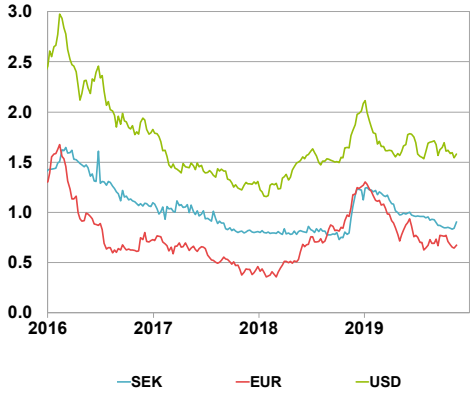
4 For more information, see, for example, Danielsson et al. (2018), "Learning from history: Volatility and financial crises", The Review of Financial Studies 31(7), 2774-2805.

5 Both swap rates and government bonds can be used to estimate the term premium. This report uses swap rates since more data is available.

6 For more information, see Rehnby N. and Zhang D. (2019), "Swedish risk premia and monetary policy", FI Analysis 18, Finansinspektionen.

11. Risk premiums lower than at the beginning of the year

Percentage points

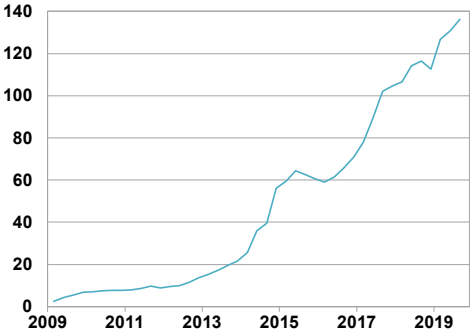


Source: Refinitiv Datastream.

Note. Interest rate differentials for corporate bonds with credit rating BBB in Sweden, the Euro zone and the USA. Calculated as the difference between the Refinitiv corporate benchmark for Sweden, the Euro zone and the USA and Refinitiv's interest rate swaps in each currency. All with a maturity of 5 years.

12. Assets under management in corporate bond funds are growing

SEK billion



Source: FI's system for reporting holdings and quarterly reporting of UCITS funds.

Note. Refers to funds in Sweden that classify themselves as corporate bond funds or where the fund's name contains "corporate bond", total assets under management.

INCREASED DEMAND FOR ASSETS WITH LOWER CREDIT RATING

In their hunt for yield, funds in both the EU and the USA are increasingly investing in corporate bonds with low credit ratings. This has helped increase the demand for assets that can then be difficult to sell if market conditions were to deteriorate. Several international actors have expressed concern for this development due to the fund sector's growing importance for the financial system.[7] The increase in leveraged loans and collateralised loan obligations (CLOs) has also received a lot of attention (see "Loans to highly indebted firms have increased").

In Sweden, there has been a large flow into funds that invest in corporate bonds, which is evident through the sharp increase in the assets under management in recent years (Diagram 12). A large portion of these investments have gone into corporate bonds with a credit rating of BBB or no rating at all. Corporate bonds with a low credit rating could take a long time to sell, particularly in a crisis. If the funds offer daily liquidity, this could give rise to liquidity problems, for example if many investors want to redeem their fund units at the same time.

In both the EU and the USA, the credit quality on outstanding corporate bonds has been declining for a long time. This is in part due to more actors with lower credit ratings issuing bonds, but also to credit rating institutes lowering existing credit ratings. In Sweden, the issuances on the Swedish market for corporate bonds has increased sharply over the past ten years, and there are now more firms issuing smaller volumes. The share of corporate bonds with low or no credit rating at all is also increasing.

Loans to highly indebted firms have increased

From an international perspective, there has been a sharp increase in recent years in loans to firms that have high debt and low credit ratings, so-called leveraged loans. Institutes in primarily the USA issue large volumes of leveraged loans, but the volumes have grown rapidly in the EU as well. Some leveraged loans are financed by the loans being sold and therefore repackaged as a financial instrument. These instruments are called collateralised loan obligations (CLOs). Investments in CLOs are increasing, which is a sign of investors' hunt for yield. Several international bodies have expressed concern about the risks associated with leveraged loans and the market for CLOs. CLOs are considered to be less complex instruments than collateralised debt obligations (CDOs), which contributed to the crisis on the U.S. mortgage market in 2007–2008. However, CLOs and CDOs also share several traits, such as falling credit ratings in underlying loans and hard-to-assess risk levels in stressed scenarios.[8] In addition, the investor protection on the underlying loans has decreased as the willingness to take on risk in the hunt for yield has increased.[9] This means in part that the risk of a greater loss for the

7 For more information, see, for example, IMF Global Financial Stability Report, October 2019.

8 For more information, see, for example, Aramonte and Avalos (2019), "Structured finance then and now: a comparison of CDOs and CLOs", BIS Quarterly Review, September 2019.

9 A lower investment protection means that more leveraged loans are classified as covenant-lite loans.

investor increases and that firms that are already highly indebted are borrowing even more. This, in turn, could mean that vulnerabilities are building up in the financial markets.

In Sweden, the volumes of outstanding leveraged loans are limited. The lending of the three major banks in the form of leveraged loans amounted to approximately SEK 111 billion in Q2 2019. This is approximately 2 per cent of the major banks' total lending to the public. The major banks have no investments at all in CLOs. Other Swedish investors, for example funds and insurance undertakings, have very small holdings in both leveraged loans and CLOs.

The low exposures to CLOs among the major Swedish banks, insurance undertakings and occupational pension institutes mean that the direct risk to financial stability is limited. However, the financial markets are strongly interconnected internationally, and events in the USA and Europe could spread to Sweden.

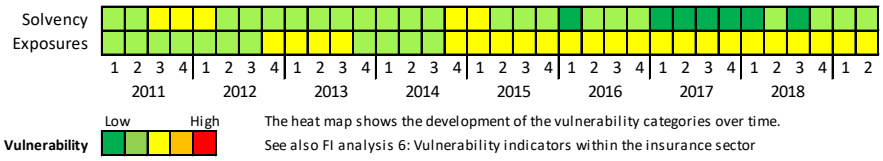
CONTINUED RISK OF THAT PRICES WILL FALL SHARPLY

Investors' expectations of low interest rates for a prolonged period have created incentives for them to continue to seek risky assets in the hunt for yield. Even if the expansionary financial conditions are expected to continue, the business cycle in both Sweden and globally has begun to slow. This could have a restraining effect on risk-taking. However, it is not clear to what extent today's pricing on financial market reflects the existing risks. Weaker economic development could reveal vulnerabilities that have built up and thereby increase the uncertainty on financial markets. If many investors re-evaluate their view on risk and rapidly adapt their holdings at the same time by selling risky assets, in a worst-case scenario this could lead to widespread turbulence and price contractions in the financial markets.

Stability in the insurance sector

The Swedish insurance undertakings' long-term resilience has decreased as a result of sharply falling market rates in 2019. Firms' solvency ratios still appear to be satisfactory, in part because the risks associated with low interest rates are not fully reflected in the calculations. If the low interest rates persist, insurance undertakings will become more inclined to act procyclically if uncertainty arises in the financial markets.

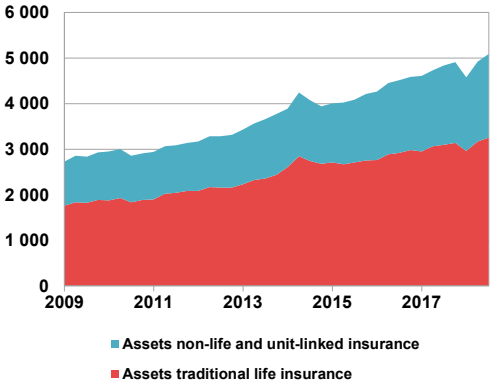
Vulnerability indicators for the insurance sector



The heat map shows the development of the vulnerability categories over time.
See also FI analysis 6: Vulnerability indicators within the insurance sector

13. Insurance undertakings manage large amounts

SEK billion

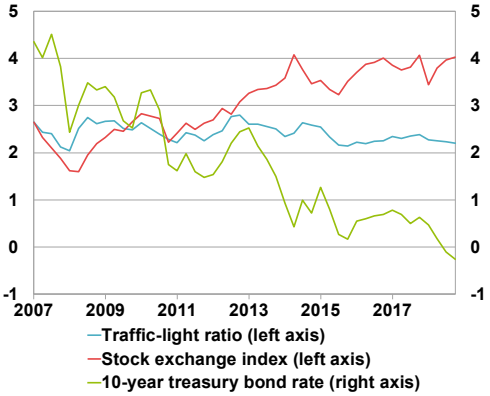


Source: Statistics Sweden.

Note. Insurance undertakings' investment assets broken down into traditional life insurance and non-life insurance/unit-linked insurance.

14. Traffic-light ratios still stable

Ratio (left axis) and per cent (right axis)



Source: FI and Refinitiv Eikon.

Note. Traffic-light ratio for life insurance undertakings that use the Solvency I regulations in relation to the growth of a yield index for Swedish shares and the ten-year government bond rate.

Swedish insurance undertakings and occupational pension institutions fulfil an important function in the financial system. These firms manage very large sums of money and are among the largest actors on the capital markets. At the end of Q2 2019, insurance undertakings' total investment assets corresponded to around SEK 5,100 billion, of which approximately SEK 3,300 billion was in traditionally managed life insurance (Diagram 13). Life insurance firms with traditional management hold large posts of assets that do not match the firms' long-term commitments. As a result, the firms become sensitive to market risks. If a firm's financial position declines, for example due to a sharp fall in share prices, the firm may need to sell riskier assets to reduce its market exposure. If several firms simultaneously apply this same strategy, this could amplify the market fluctuations and deepen a financial crisis through what is called procyclical behaviour.

RESILIENCE HAS DECREASED

Insurance undertakings have demonstrated stable financial positions for a long time. Within non-life insurance, this is a result of a long period of very good financial results from insurance activities. For life insurance undertakings, which for a long time held almost twice as much capital as required by the capital needs in the traffic-light model, this is due primarily to good returns on capital management (Diagram 14).[10]

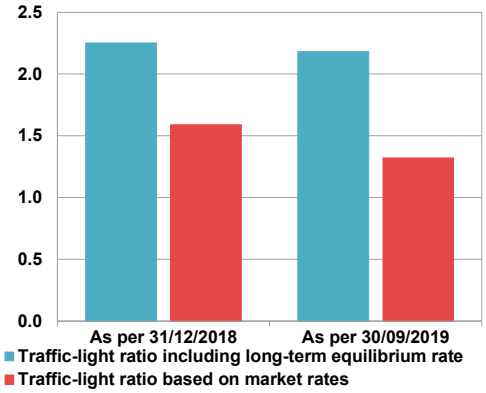
The development in the financial markets in 2019 was influenced by rising share prices and sharply falling interest rates (see "Stability in the financial markets"). For insurance undertakings, the effects of these changes to some extent counteract one another. The undertakings have large shareholdings and thus have benefited from the positive development on the stock markets. At the same time, the falling market rates have been very unfavourable given that they

10 The traffic-light is a supervisory tool that places the capital buffer held by an insurance undertaking (assets minus liabilities) in relation to a calculated capital need based on the insurance undertaking's exposures to various risks. If an undertaking has a capital buffer of SEK 200 million and a capital need of SEK 100 million, its traffic-light ratio is 2.

increased the value of the insurance undertakings' commitments. Therefore, the most recently reported solvency and traffic-light ratios, as per the third quarter, are slightly below the levels reported at the end of 2018.

Solvency regulatory framework does not capture sensitivity to interest rate risk

15. Ultimate forward rate has major impact
Ratio



Source: FI.

Note. Ratios for a sample of large insurance undertakings. Ratios based on market rates (excluding the assumption of an Ultimate forward rate) are estimates by FI. Regarding market rates, available interest rate swaps with maturities between 1 – 30 years have been used.

The solvency regulations with which insurance undertakings must comply are misleading during periods of very low interest rates.[11] As FI has pointed out in previous stability reports, the insurance undertakings' good solvency situations are due in part to the assumption of a long-term equilibrium interest rate (Ultimate Forward Rate, UFR) that is used to calculate the value of future pension liabilities.[12] The UFR is significantly higher than current market rates, which means that the value of the pension liability is lower than it would have been if market rates were used in the calculation. FI's estimates show that the undertakings' financial positions would deteriorate notably if the UFR were replaced with market rates (Diagram 15). A prolonged period of low interest rates could lead to solvency problems for the undertakings, and in a worst-case scenario they could find it difficult to meet their future pension commitments. However, the effects will have a gradual impact and first be realised in the far future. It is thus not comparable with the immediate effects that arise, for example, when share prices fall. In a prolonged period of low interest rates, the resilience of insurance undertakings to falling asset prices is impaired at the same time as the undertakings' need for returns on non-interest-bearing assets increases. Therefore, in the long run, insurance undertakings could become more prone to reacting procyclically in the presence of uncertainty in the financial markets.

The regulations also comprise limitations on how much interest rates can be stressed in the capital requirement calculations. Where the interest rate is negative, maturities are not stressed at all, and where the interest rate is positive, they are not stressed below zero. The effect of these limitations in the solvency regulations has been relatively small up through the end of 2018, since only interest rates for shorter maturities have been negative and were thus exempted from stress. However, in 2019, when interest rates for longer maturities fell sharply, the effect of this limitation became significantly more important. Subsequently, interest rate risk, one of the most important risks for insurance undertakings with long commitments, is not captured adequately. This means that insurance undertakings' resilience can be overestimated during periods of low interest rates.

CONTINUED INCENTIVES TO TAKE RISK

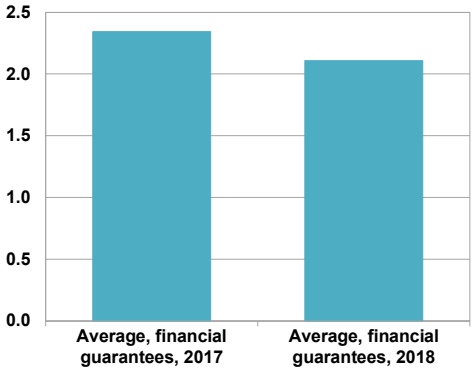
Economic growth has slowed, which creates incentives for investors to seek more secure assets. However, the central banks' expansionary monetary policy and the expectations that this policy will continue

11 FI's traffic-light stress test is described in this paragraph as a solvency regulation, although in reality it is only a supervisory tool reported by firms that are not subject to the Solvency II regulatory framework.

12 For more information, see Stability in the Financial System, May 2019, FI.

16. Financial guarantees go down

Per cent

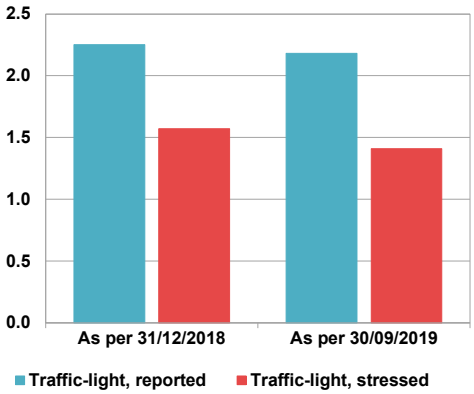


Source: FI.

Note. Financial guarantees to beneficiaries on paid-in premiums (average for a sample of companies under Solvency 2 regulations).

17. Resilience has decreased

Ratio



Source: FI.

Note. Weighted traffic-light ratios for a sample of large insurance undertakings. The stressed traffic-light ratios are estimated by FI.

create incentives for investors to seek riskier assets (see "Threats to financial stability" and "Stability in the financial markets").

For life insurance undertakings, a large portion of the savings in traditional life insurance contains financial guarantees to beneficiaries. This means that insurance undertakings must generate a return in the long run that exceeds the pledged guarantees. The level of guarantees vary, but the average is just above 2 per cent as at the end of December 2018 (Diagram 16).[13] In order to be able to both achieve a return that exceeds previously issued guarantees and meet buffer requirements in today's interest rate environment, the undertakings are becoming more dependent on high returns on non-interest-bearing assets. This means that a large share of insurance undertakings will continue to face incentives in the long run to invest in riskier assets. This is reflected in the recent years' decline of the share of interest-bearing securities, for example covered bonds, whilst investments in real estate and alternative assets, etc., have increased.[14]

In order to estimate insurance undertakings' resilience, FI uses stress tests. Using the assumptions included in the European Insurance and Occupational Pension Authority's (EIOPA) stress test of occupational pension funds in 2019, FI estimated the insurance undertakings' resilience based on data reported as per the end of Q2 2019.[15] The outcome shows that insurance undertakings' resilience has deteriorated compared to when the same assumptions were used to evaluate the undertakings based on data from the end of 2018 (Diagram 17). This is largely due to the sharp increase in the value of insurance commitments as interest rates have fallen. The results show that a fall in asset prices has a major impact on insurance undertakings.

Historically, the financial position of Swedish insurance undertakings has been so good that they were able to take on relatively high risk in their asset management without needing to mitigate their risk exposure during elevated uncertainty in the financial markets. The solvency of the insurance undertakings still appears to be stable, but the trajectory of the interest rates in recent years – and in 2019 in particular – has reduced the undertakings' resilience.

13 The average guarantee amount to beneficiaries is falling since insurance undertakings have lowered guarantees on future paid-in premiums as part of their risk management. This has been done because of the low interest rates.

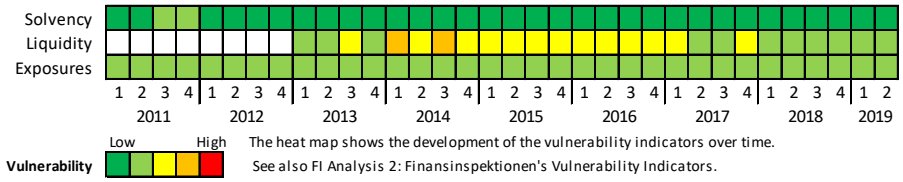
14 The assets FI calls alternative assets here are assets that are not listed, less liquid and often valued using modelled assumptions, which reduces transparency.

15 For information about the assumptions, see Stability in the Financial System, May 2019, FI or EIOPA's website: https://eiopa.europa.eu/Pages/Financial-stability-and-crisis-prevention/Occupational-Pensions-StressTest-2019.aspx.

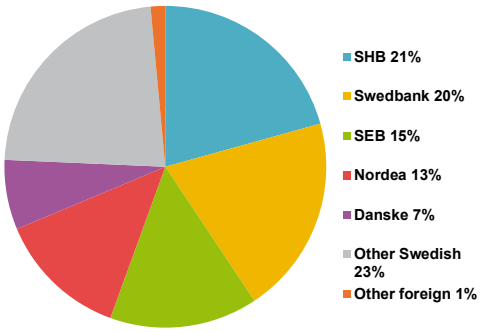
Stability in the banking sector

FI makes the assessment that the resilience of the major Swedish banks is satisfactory. However, their large exposures to the commercial real estate sector can lead to significant credit losses if problems arise on the commercial real estate market. FI therefore makes the assessment that the banks need to hold more capital to cover their risks in lending to this sector.

Vulnerability indicators for the banking sector



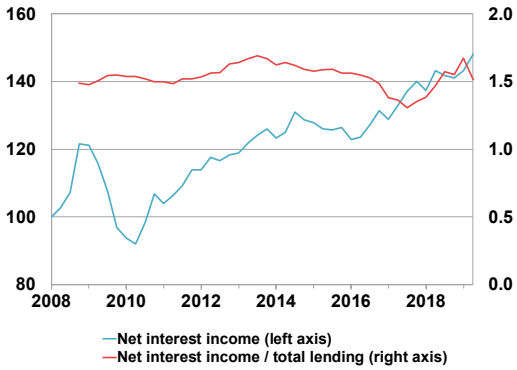
18. Distribution of bank lending in Sweden
Per cent



Source: FI.

Note. Data as of Q2 2019. Banks' lending to the general public in Sweden on consolidated level. "Other Swedish" includes other Swedish credit institutions. "Other foreign" includes other foreign banks' lending in Sweden.

19. The earnings of the major banks are high
Index (left axis) and per cent (right axis).



Source: SNL.

Note. The major Swedish banks' net interest income on consolidated level (indexed).

Banks play a central role in the financial system since they contribute fundamental functions such as payments, the conversion of savings into financing and the management of financial risks. These functions are critical for both the functioning of the financial system and the economy as a whole.

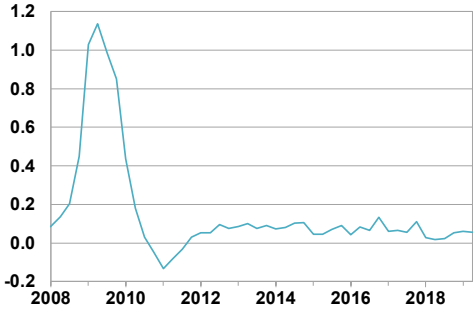
It is therefore important for the banking system to have a satisfactory level of resilience to shocks and the confidence of investors and customers. FI therefore imposes requirements on the banks to ensure this resilience. However, banks also need to protect their reputation themselves through sound risk management and good governance and control of their operations. This resilience is strengthened by the banks' stable profitability, sufficiently large capital buffers, and confidence in the banks on the financing market. A bank with a satisfactory level of resilience reduces the risk that problems will spread to other banks and other parts of the financial system.

The Swedish banks have issued combined outstanding loans of approximately SEK 7,600 billion to the public, of which SEK 5,300 billion in Sweden. There are currently around 110 banks, credit market companies and other credit institutions that conduct business in Sweden with authorisation from FI. Five of them – the three major Swedish banks (Svenska Handelsbanken (SHB), SEB and Swedbank) and the Swedish operations of two foreign banks (Nordea and Danske Bank) – are responsible for a large portion of the banking operations in Sweden.[16] Together, these banks represent approximately 76 per cent of the banking system's total lending to the public in Sweden (Diagram 18). Due to their size and interconnectedness with the rest of the financial system, these banks play a key role in how well the Swedish financial system functions. The fact that the banking system is concentrated to such a small number of large banks can make it more vulnerable, since difficulties in one major bank can lead to problems in the financial system as a whole. FI therefore prioritises

16 Nordea and Danske Bank conduct their business in Sweden in part through their Swedish branches but also through their respective Swedish mortgage companies.

20. Major banks continue to have low credit losses

Per cent

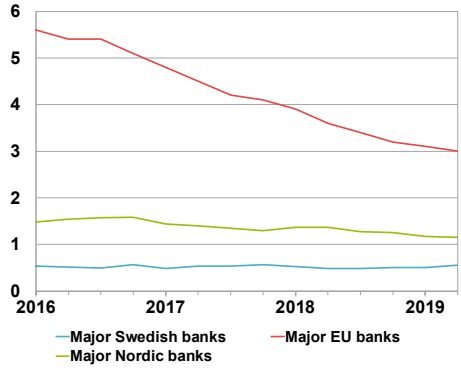


Source: The banks' interim reports.

Note. Loan losses of major banks as a percentage of total lending to the private and public sectors on a quarterly basis, at an annual rate. The low levels in 2011 are partly due to recovered provisions from previous years.

21. Low percentage of non-performing loans in Swedish banks

Per cent

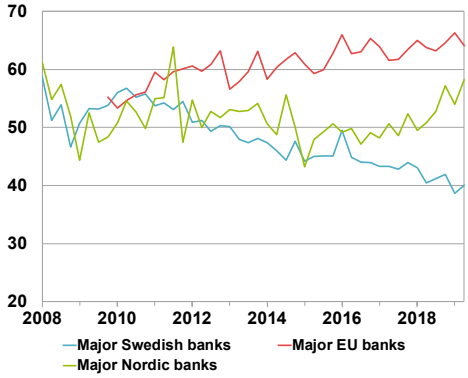


Source: EBA, FI and SNL.

Note. Non-performing loans in relation to total lending on consolidated basis. "Major EU banks" is an average of major banks in the EU. "Major Nordic banks" is an average of Nordea, Danske Bank and DNB.

22. Swedish banks have lower costs

Per cent



Source: EBA and SNL.

Note. Major banks' C/I ratio compared on a consolidated basis. "Major EU banks" is an average of major banks in the EU. "Major Nordic Banks" is an average of Nordea, Danske Bank and DNB.

supervision of the major banks and places higher demands on their capital.

GOOD PROFITABILITY – BUT THE INTEREST RATE ENVIRONMENT IS A CHALLENGE

The net interest income of the three major banks is the largest contributor to their earnings. This income has increased over a long period of time, primarily due to high growth in lending (Diagram 19). Net commission income has also increased. Total earnings have benefited from strong interest rate margins and rapid growth in the financial markets over a long period of time. The high earnings of the three major banks improves their ability to withstand future challenges.

A long period of good economic growth has contributed to the low level of credit losses at the three major banks (Diagram 20) and a low share of non-performing loans (Diagram 21).[17] The slow-down in the Swedish economy could have a negative impact on the banks' profitability through both lower earnings and an increase in credit losses. The rate of growth on the housing market has slowed. If the lower growth rate persists, the banks' balance sheets may also grow slower than they have in recent years. Parts of the banks' traditional operations are also being challenged as a result of, for example, technological developments. This increases the competition for Swedish banks.

The prolonged low interest rate environment has to date not resulted in falling interest rate margins for the Swedish banks. Banks with a higher degree of market funding, like Swedish banks, are affected less than banks that primarily finance themselves by deposits, since deposit rates so far usually do not fall below zero. Another aspect of the current interest rate situation is that the slope of the yield curve has decreased (Diagram 9 in "Stability in the financial markets"). This usually means lower profitability for banks with a high proportion of deposits since they earn money using so-called maturity transformation. For the major Swedish banks, however, which have a high degree of market funding, profitability so far only appears to have been affected favourably. One reason for this could be that their market funding primarily has long interest rate adjustment periods, which means that they benefit from low long-term interest rates.[18] They also have large exposures to mortgages, where the interest rate adjustment period is usually short.

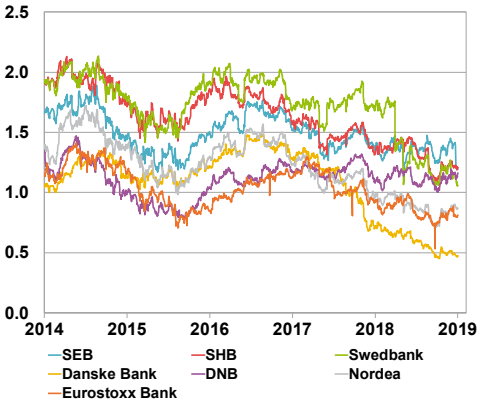
However, a prolonged low interest rate environment still narrows the available range of the banks' interest rate margins. The fact that it appears that interest rates will remain low for a long period of time thus puts more transformation pressure on the banking market. Cost control and new sources of income (for example add-on sales, new services and higher customer fees) play a larger role in the banks' earnings. The longer the low interest rate environment lasts, the more

17 A loan is non-performing when the borrower has not made the agreed interest rate and amortisation payments within a certain period of time after the due date (normally 90 days).

18 For more information, see The Riksbank's method for stress testing banks' capital, May 2019, Sveriges Riksbank.

23. The market expects lower returns

Per cent

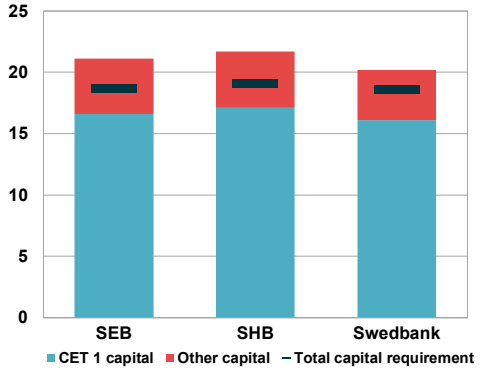


Source: Refinitiv Eikon

Note. Price to Book ratio. Eurostoxx Bank is a market cap weighted average of the constituent banks.

24. The major banks meet capital requirements

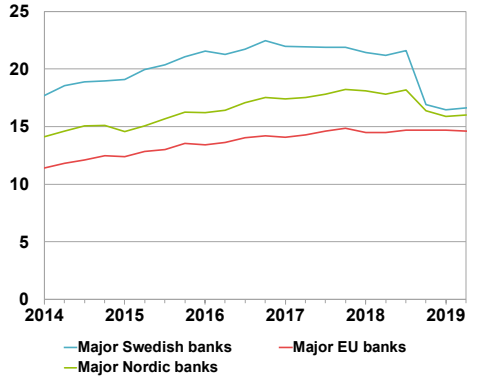
SEK billion



Source: FI.
Note. Data of Q2 2019.

25. Major banks have satisfactory capital ratios

Per cent of risk-weighted assets



Source: EBA and FI.

Note. CET1 ratio on consolidated basis. "Major EU banks" is an average of major banks in the EU. "Major Nordic banks" is an average of Nordea, Danske Bank, and DNB.

the risk increases that borrowers will take on high levels of debt. This can create credit losses if interest rates begin to rise again.

The major Swedish banks have lost market shares to smaller players in recent years, primarily on the mortgage market. Competition is coming mainly from the mid-size retail banks[19], whose market share increased from 14.5 to 18.1 per cent since the end of 2014. New mortgage actors outside of the banking sector (for example mortgage funds) are growing rapidly but still have a very small share of the mortgage stock.[20]

In addition to high earnings and low loss levels, the three major Swedish banks also have lower costs in relation to revenue compared to the major banks in the rest of the Nordic region and the EU (Diagram 22). They also have higher return on equity than the average for comparable EU banks. As a whole, the three major Swedish banks currently have a satisfactory financial position.

Due to the economic slow-down and the low interest rates, the banks' profitability could decrease in the future. One sign of lower future profitability is that the banks' P/B ratio[21] has fallen the past few years (Diagram 23). The major Swedish banks' P/B ratio was at around 1.9 at the end of 2014, but it is now at around 1.2. Other European banks have also experienced falling P/B ratios during the same period, but the Swedish banks are at a higher level.

MAJOR SWEDISH BANKS HAVE SATISFACTORY CAPITAL BUFFERS

The banks' capital levels are greatly affected by the capital requirements FI places on the banks. FI considers it important to require large buffers, which during times of crisis allow the banks to absorb losses without breaching of the minimum requirements.[22] The three major Swedish banks have large capital buffers compared to other European banks, in part because FI has introduced higher buffer requirements than what is stipulated in the regulatory framework.

One of the buffer requirements is the countercyclical capital buffer. The idea behind this requirement is to raise it when the risks in the financial system are building up and lower it in a financial crisis or when banks are reporting significant losses. By meeting the buffer requirement, banks have the capacity to be able to continue with their lending activities if a crisis were to occur. Because the economy has had expansionary financial conditions for a long time, including low interest rates, rising asset prices and high credit growth, FI makes the assessment that the systemic risks in the Swedish financial system are elevated. FI therefore raised the countercyclical capital buffer rate from 2.0 to 2.5 per cent in September 2018. The raised buffer rate was

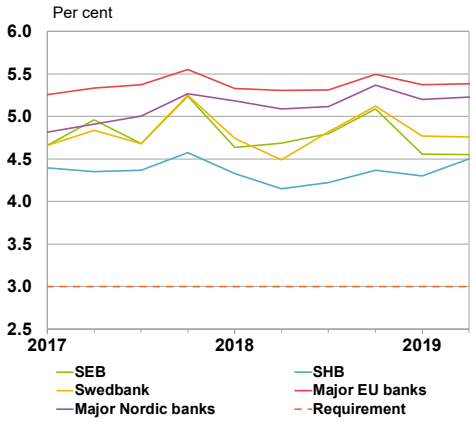
19 FI defines as retail banks SBAB, Länsförsäkringar Bank, Skandiabanken and Landshypotek. See Bankbarometern, October 2019, FI. In Swedish only.

20 At the end of Q2 2019, this share was 0.5 per cent.

21 P/B ratio stands for Price-to-Book, i.e. the share price divided by book value per share.

22 For more information about FI's view on capital requirements, see Stability in the Financial System, November 2018, FI.

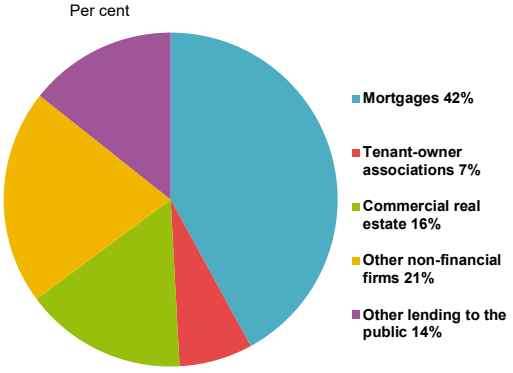
26. Major banks meet the leverage ratio requirement



Source: EBA and FI.

Note. Data as of Q2 2019. "Major EU banks" is an average of major banks in the EU. "Major Nordic banks" is an average of Nordea, Danske Bank and DNB.

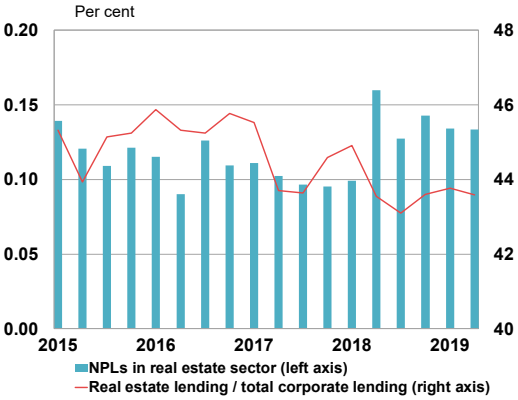
27. Distribution of the major banks' credit portfolios



Source: Banks' interim reports.

Note. Data as of Q2 2019. Refers to the major banks' lending to the public on a consolidated basis.

28. Share of real estate lending is decreasing



Source: FI and Sveriges Riksbank.

Note. Major Swedish banks' exposures in Sweden on a consolidated basis.

applied as of 19 September 2019.[23] FI decided on 24 October to leave the countercyclical buffer rate unchanged.

The capital levels of the three major banks are increasing gradually in SEK, at about the same rate as their balance sheets. The banks fulfil the risk-based capital requirements by a good margin (Diagram 24), and their capital ratios are somewhat higher than those of other major banks in the Nordic region and Europe (Diagram 25). However, the capital ratios expressed as a percentage of risk-weighted assets were affected by a change in methodology that FI implemented in 2018. [24]

The three major banks also meet the forthcoming leverage ratio requirement by a good margin (Diagram 26)[25]. FI makes the assessment that the three major banks have satisfactory capital buffers and margins to the capital requirements, which makes them resilient to losses and a dip in profitability. This assessment is supported by the stress tests conducted by the European Banking Authority (EBA) in the autumn of 2018.[26]

BANKS HAVE LARGE EXPOSURES TO REAL ESTATE

Just under 65 per cent of the total lending of the three major Swedish banks is associated with the real estate market (Diagram 27). Therefore, the developments on this market have a major impact on both the banks' financial position and confidence in them.

FI currently considers the risk that the banks will post major credit losses on Swedish mortgages to be limited. Household debt is primarily a macroeconomic risk (see "Corporate and household debt").

Risks in the real estate sector are underestimated

In total, the three major Swedish banks' lending to the real estate sector amounts to around SEK 893 billion.[27] Real estate firms have benefited from low interest rates and a very strong economy, especially in Sweden. As a result, the non-performing loans among real estate firms are at very low levels (Diagram 28).

The commercial real estate sector is sensitive to business cycle fluctuations and the interest rate. Because of their extensive lending to the sector, the banks could experience large credit losses if the sector were to experience problems. Credit losses in real estate lending have historically played a key role in bank-related crises. FI makes the assessment – based in part on stress tests FI conducted during the

23 For more information, see the Decision Memorandum Amendment to regulations regarding the countercyclical buffer rate, September 2018, FI.

24 As of Q4 2018, the major banks have lower capital requirements and capital, expressed as a percentage of risk-weighted assets, even though the capital requirement in SEK did not change significantly. This is because FI changed the method it applies to the risk-weight floor for Swedish mortgages and because risks that were previously managed under Pillar 2 are now considered in the banks' models, resulting in an increase in the risk-weighted assets. For more information, see Stability in the Financial System, May 2019, FI.

25 A binding leverage ratio requirement of 3 per cent is included in the Banking Package, which is the umbrella term for a number of changes to the EU regulatory framework in the banking sector. The changes will be implemented over the next two years.

26 For more information, see Stability in the Financial System, November 2018, FI.

27 The figure refers to the major banks' total exposures, at group level, to commercial real estate in the entire world at the end of Q2 2019.

spring of 2019 – that banks with their own internal credit risk models underestimate the risk associated with the lending to the commercial real estate sector and thus hold less capital than they should to cover this risk.[28] This vulnerability is primarily associated with the low interest rate environment that has prevailed in Sweden for a number of years and from a historical perspective is unique. FI announced with the publication of its spring stability report that it would be implementing a measure that addresses banks' commercial real estate exposures. According to the measure, which will be submitted for consultation in conjunction with the publication of this report, a capital requirement will be added in Pillar 2 to increase the banks' capital (see "Pillar 2 capital requirements for commercial real estate"). In the longer term, FI believes EBA's new guidelines for internal models, which the banks are currently adapting to, could achieve the same purpose as the new capital requirements.[29]

Because the banks' resilience is satisfactory, an isolated shock to the real estate sector would not necessarily be a threat to the banks' solvency or financial stability (see "Corporate and household debt").

Pillar 2 capital requirements for commercial real estate

On 27 November, FI proposed a change in the assessment of the banks' capital requirements for commercial real estate.[30] According to the proposal, FI will add a capital requirement to its assessment of the banks' Pillar 2 capital requirements for credit exposures to the commercial real estate sector. The additional capital requirement corresponds to the difference between a specified risk weight and a bank's actual average risk weight for these exposures. The specified risk weights have been set at 35 per cent for a bank's corporate exposures collateralised by commercial real estate and 25 per cent for corporate exposures collateralised by commercial housing properties.

The choice of risk weights is in line with the analyses previously conducted by FI, even if the results are associated with some uncertainty. FI makes the assessment that the additional capital requirement it has chosen ensures that the banks have enough capital to cover the risks in their lending to commercial real estate. The proposed risk weights correspond as a whole to the level of at least 30 per cent that was communicated previously, but they are differentiated to take into account the difference in the financial risks between commercial housing properties and other commercial real estate.

The additional capital requirement applies to all Swedish banks with authorisation for the IRB approach for exposures to the commercial real estate sector, but FI takes the position that it is primarily the capital requirements of the three major banks that will be affected. The measure is expected to increase the major Swedish banks' total capital requirement by between SEK 4.5 and 5 billion per bank, which on average corresponds to an increase in the capital requirement of 0.7 percentage points of risk-weighted assets.

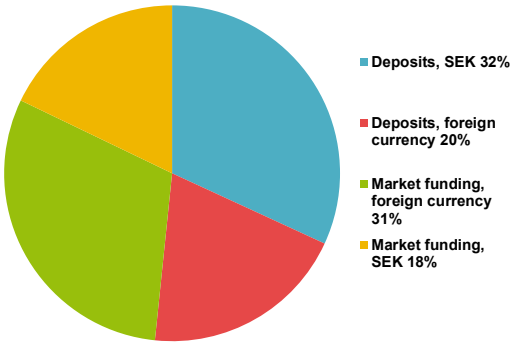
28 For more information, see Stability in the Financial System, May 2019, FI.

29 For more information about the model review, see Memorandum New requirements for institutions using the IRB approach, November 2018, FI.

30 For more information see the consultation memorandum FI föreslår ökade kapitalkrav för banklån till kommersiella fastigheter, November 2019, FI. In Swedish only.

29. Half of the major banks' funding is on the securities market

Per cent

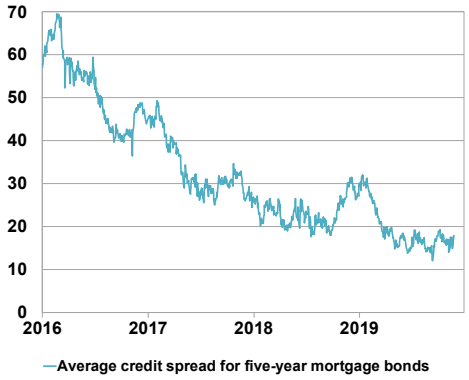


Source: FI.

Note. Data as of Q2 2019. Equity and liabilities related to insurance business are not included in the calculation of the banks' liabilities.

30. Low funding costs for Swedish mortgages

Basis points

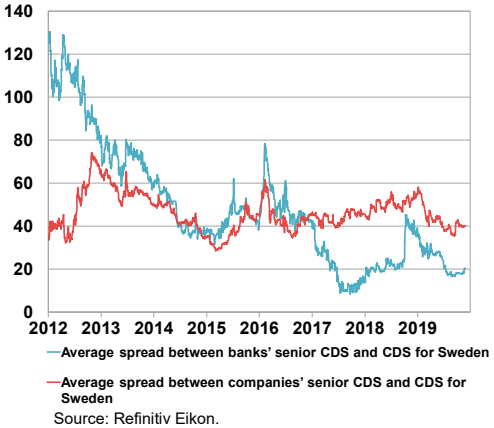


Source: Refinitiv Eikon.

Note. Average credit spread (asset swap spread) for Swedish covered bonds with estimated fixed duration, 5 years effective maturity. Includes SEB, SHB and Swedbank.

31. Credit spreads are at historical low

Basis points



Source: Refinitiv Eikon.

Note. Spread senior CDS vs. Sweden CDS. "Banks" is an average of SEB, SHB and Swedbank. "Companies" refers to non-financial corporations.

BANKS' RESILIENCE MEANS LOW FUNDING COSTS

Banks often lend money on longer terms than what they finance their operations with. This creates a so-called refinancing risk, i.e. the risk of not being able to replace maturing funding at a reasonable cost. In order to counteract this risk, it is important for investors and depositors to have a high level of confidence in the banks. Due to Swedish banks' tendency to utilise a high share of market financing (Diagram 29), it is even more important to maintain confidence in the banking system. This also imposes strong demands on the banks to have sufficient contingencies in place in the event market conditions deteriorate.

Capital buffers are one way to maintain confidence in the banks' ability to manage losses. FI also imposes requirements on how the banks manage their liquidity risks. It is also important for the banks to run their operations in a manner that maintains their reputation, i.e. that they have good governance and control over their operations and risks.

Low funding costs

The borrowing costs of the three major banks are low. This indicates a high level of confidence in them, but low risk premia and investors' hunt for yield given the low interest rates (see "Stability in the financial markets") are also key factors. This confidence is also supported by the major Swedish banks in general having higher external credit ratings[31] in recent years than other European banks.

Market confidence in the three major banks is noticeable in the borrowing costs for Swedish covered bonds, which are still at historically low levels (Diagram 30). Borrowing costs increased sharply in Q4 2018 but were still very low from a historical perspective. The credit spreads for the three major banks' unsecured debt has generally followed the same trend (Diagram 31), while credit spreads for other Swedish firms have not fallen to the same extent.

The increase in borrowing costs in the autumn of 2018 was in part due to reports about money laundering at several Nordic banks, which had a clear impact on the pricing of bank equity and borrowing. The price fluctuations were the greatest for equity shares. The cost of market debt financing for the three major Swedish banks increased to a lower extent and thereafter returned to the levels seen prior to the increase in the autumn of 2018. This indicates that uncertainty was primarily related to future profitability and not the ability to repay the investors in the banks' debt instruments.

Major banks meet liquidity requirements

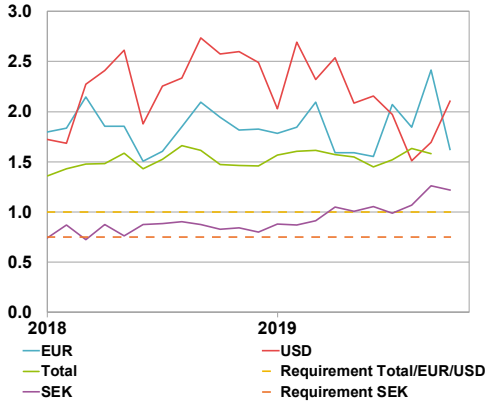
In order to reduce liquidity and refinancing risks, FI imposes requirements on the banks to ensure they hold sufficient liquidity buffers. These buffers can be drawn upon to handle short-term liquidity stress.

The three major Swedish banks meet the requirement on liquidity coverage ratio (LCR), not only for all currencies in total but also for

31 For senior uncovered borrowings.

32. Major banks have satisfactory liquidity coverage ratios

Ratio

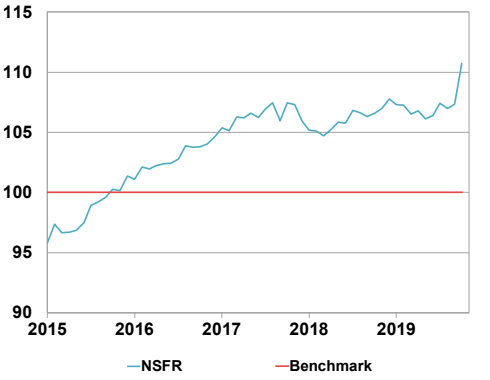


Source: FI.

Note. The requirement refers to the liquidity coverage ratio for total currencies in accordance with Commission Delegated Regulation (EU) 2015/61 and FI's Pillar 2 requirements on liquidity coverage ratios in individual currencies. Average of SEB, SHB and Swedbank.

33. Major banks are above the proposed NSFR requirement

Per cent



Source: Sveriges Riksbank.

Note. Refers to the major Swedish banks' available stable financing in relation to the stable financing required under the Basel Committee's definition from 2014. The benchmark is 100.

the individual currencies EUR and USD (Diagram 32).[32] FI has also decided that the banks must have a liquidity coverage ratio of at least 75 per cent for all significant currencies (for example SEK) as of 1 October 2019.[33] The banks also meet this requirement.

To improve the banks' matching of assets and liabilities with longer maturities, the Basel Committee has developed a new minimum liquidity requirement called the Net Stable Funding Ratio (NSFR). This requirement has not yet been implemented, but the three major Swedish banks' indicative NSFR levels are already above the forthcoming requirement (Diagram 33).

FI makes the assessment that the overall resilience of the major Swedish banks to liquidity shocks is satisfactory.

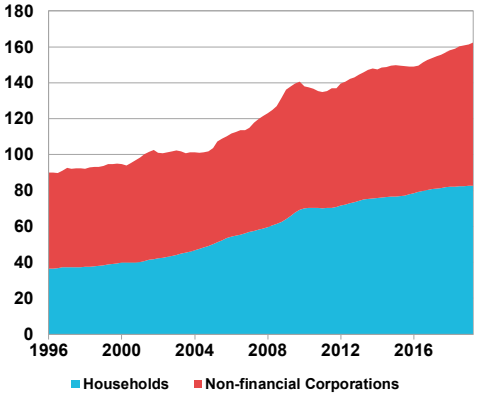
32 The LCR regulations are set out in Commission Delegated Regulation (EU) 2015/61 of 10 October 2014 to supplement Regulation (EU) No 575/2013 of the European Parliament and the Council with regard to liquidity coverage requirement for credit institutions and FI's Pillar 2 requirements on the LCR ratio for individual currencies. The requirement for aggregate LCR as well as for LCR in EUR and USD is 100 per cent. The requirement for other significant currencies is 75 per cent.

33 For more information, see the Consultation Memorandum FI's liquidity coverage ratio requirements in individual currencies and diversification of covered bonds in the liquidity buffer, March 2019, FI.

Corporate and household debt

Non-financial corporations and households have high levels of debt. The high debt of commercial real estate firms makes them sensitive to interest rates and thus vulnerable to higher interest rates. Such a development could lead to significant credit losses for banks and other lenders. In contrast, the risks associated with household debt are continuing to decrease somewhat.

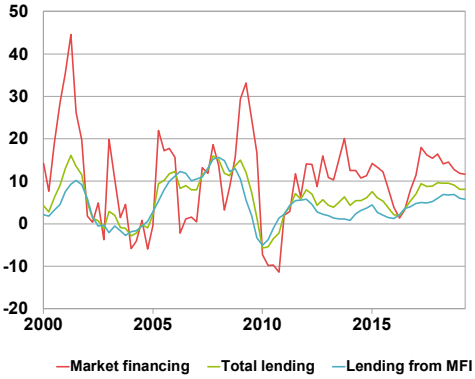
34. Firms and households have high debt
Per cent of GDP



Source: Statistics Sweden.

Note. Refers to consolidated debt for non-financial corporations.

35. Debt is increasing among firms
Annual change in per cent



Source: Statistics Sweden.

Note. MFI is an abbreviation for Monetary Financial Institution.

Loans offer households and firms the possibility of smoothing out their consumption and investments over their life cycle. This contributes to an efficient use of capital. Therefore, the possibility of borrowing money is in many ways good for the economy. On the other hand, though, a high level of debt makes both lenders and borrowers vulnerable to shocks and can thus affect the entire economy and by extension threaten financial stability. FI is therefore following the vulnerabilities that debt might pose to households and non-financial corporations. A long period of rising asset prices and low interest rates has now made it easier for firms and households to build up high levels of debt. If needed, FI can take action to counteract imbalances and mitigate stability risks.

HIGH DEBT AMONG NON-FINANCIAL CORPORATIONS

Swedish non-financial corporations have a high level of debt (Diagram 34). The majority of these corporations' loan-based financing consists of bank loans, even if market financing has increased. If the firms experience problems, and in a worst-case scenario declare bankruptcy, this could result in major losses for banks and other lenders. Non-financial corporations therefore play an important role for financial stability. At the same time, a shock to the financial system could also impair the credit supply. This could make it more difficult for firms to secure financing and thus reduce their investments, or even experience repayment problems, which could lead to a downturn in the real economy.

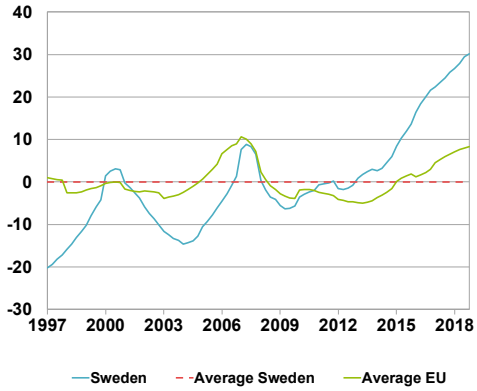
The non-financial corporations' total debt has grown rapidly for a long time. During Q3 2019, this debt grew by approximately 8 per cent on an annual basis (Diagram 35). Growth is driven primarily by these firms' market financing via bonds and commercial paper.[34] Banks are also lending more to non-financial corporations. FI makes the assessment that the banks' lending to corporates will continue to increase in the future, but that the growth rate may slow somewhat as the economy slows.

The firms active in the real estate, manufacturing and retail trade sectors represent almost 60 per cent of the non-financial corporations' total debt.[35] The real estate sector is the largest, with just over 30 per cent.

34 For more information, see Stability in the Financial System, May 2018, FI.

35 Refers to consolidated debt for non-financial corporations in 2017.

36. Real estate prices have increased
Per cent



Source: ECB, Eurostat, MSCI and FI's own calculations.

Note. Refers to annual change in per cent from historical average in underlying indicators. The dashed line refers to average for Sweden for the period 1997–2018. See Footnote 38 for more information about the model.

COMMERCIAL REAL ESTATE MARKET

The commercial real estate sector has historically played a significant role in financial crises. It is cyclical and often largely debt financed. The Swedish market is also large, both in relation to GDP and to other sectors. Taken together, this means that the real estate sector has a stronger link to the financial system than other non-financial sectors do. Several indicators are showing that there are considerable risks on the commercial real estate market.[36]

Commercial real estate prices have increased

Real estate prices have increased rapidly in recent years. This trend is driven by higher operating income and falling yield requirements due to lower market rates and a previously strong economy.[37] Since 2014, the price of real estate has risen faster than a number of underlying indicators (Diagram 36).[38] The increase has also been larger in Sweden than in many other European countries. This means that prices could fall relatively dramatically in the event of a shock. Historically, similar upswings have often been followed by price corrections. At the same time, the low interest rates mean that firms' interest costs are low, which can support today's high prices.

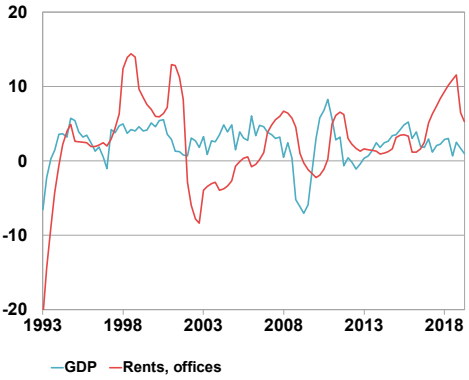
The strong demand for commercial premises and the rapidly rising prices created incentives to increase new production of commercial real estate. The number of granted building permits often increases in the middle or at the end of an economic boom. The most recent peak in the number of granted building permits was in 2017. The properties that were built with these building permits are now starting to reach completion and come out onto the market. So far, supply and demand seem to be in balance. At the beginning of 2019, the number of permits began to increase again, despite slower economic activity. This could mean that there will be a higher volume of new production over a longer period of time, which means there is a risk that the demand for commercial premises in the mid-term will not match the higher supply if, for example, the economy were to contract sharply. Excess supply of commercial premises could lead to rising vacancies and downward pressure on market rents, which can have a negative impact on real estate prices.

36 For more information, see Commercial Real Estate Market and Financial Stability, May 2019, FI.

37 A property's net operating income corresponds to rental income less operating and maintenance costs. The direct yield requirement is defined as the risk-free interest rate plus the risk premium that investors demand when investing in real estate.

38 The indicator is based on ECB's method for indicating imbalances in the commercial real estate market (see ECB Financial Stability Review, Box 6, December 2011). The indicator is one way to relate the development in commercial real estate prices to the development in a number of underlying indicators (GDP, private consumption, employment, rents and direct yield). Data refers to all commercial real estate segments. The average for the EU countries includes Belgium, Denmark, France, Finland, Ireland, Italy, the Netherlands, Poland, Portugal, Spain, UK, Sweden, Czech Republic, Germany, Hungary and Austria. Data that was used can differ from the data used in ECB's publications.

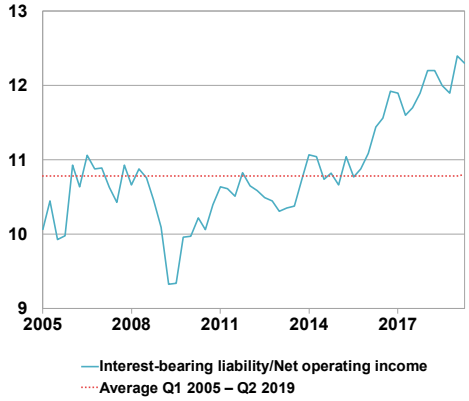
37. Office rents have increased sharply
Annual change in per cent



Source: Pangea and Statistics Sweden.

Note. Office rent growth refers to prime locations throughout the country. Annual figures have been extrapolated into quarterly averages.

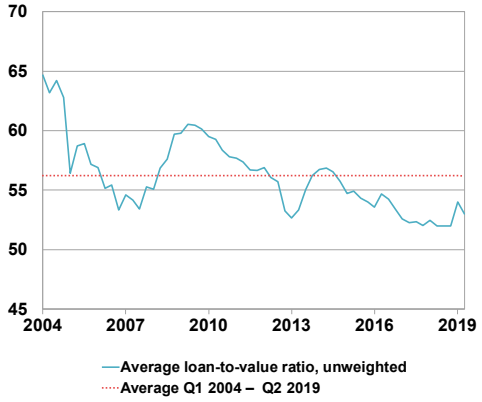
38. CRE firms leverage their cash flow more
Ratio



Source: Catella.

Note. Refers to listed CRE firms on Nasdaq Nordic Main Market.

39. Loan-to-value ratios are low
Per cent



Source: Catella

Note. Refers to listed CRE firms on Nasdaq Nordic Main Market.

Good earnings among commercial real estate firms

Commercial real estate firms have been experiencing strong economic conditions for a long time. This has resulted in rising occupancy rates and rent levels, which has improved the firms' earnings. Office rents have increased faster than GDP over the past few years (Diagram 37). The economic position of commercial real estate firms is currently strong. If the ongoing slow-down in the economy were to turn into a stronger contraction, this could have an impact on these firms' earnings and possibly on real estate prices. However, since the economic slow-down has led to an expectation that interest rates will continue to be low for a longer period of time, financing costs have decreased. Commercial real estate firms have thus benefited to date from the general slow-down in economic activity.

Direct yield on commercial real estate is currently at a historically low level since real estate prices have increased more than earnings. In turn, this is because demand for real estate as an investment has been and is strong, in part due to the risk-free rate, which has been low for several years (see "Threats to financial stability"). That said, however, the risk premium commercial real estate firms receive when investing in real estate is still high from a historical perspective. This could be an indication that investors are adding the uncertainty of future net operating income into the equation when valuing commercial real estate. This also means that they receive a higher return on real estate compared to other comparable investment alternatives. As a result, several firms have increased their investments in Swedish commercial real estate; the percentage of foreign investors in this sector has increased in recent years. In 2019, foreign investors represented more than 30 per cent of the value of all transactions.[39]

Commercial real estate sector has large and growing debt

Listed commercial real estate firms' interest-bearing liabilities in relation to income has increased and is high (Diagram 38). In Q2 2019, the debt of commercial real estate firms was on average 12.3 times larger than their net operating income, even though the firms have had high and rising income.

These firms' loan-to-value ratios are relatively low from a historical perspective (Diagram 39). The market value of real estate has thus increased faster than the firms' debt. If interest rates remain at low levels for an extended period, this could encourage market participants to continue using debt financing to purchase more real estate. Debt levels would then continue to increase, and this would contribute to greater vulnerabilities over time.

Commercial real estate firms are currently able to cover the costs for their debt more than they could before. However, the high level of debt has made them more vulnerable to rising financing costs. FI has previously illustrated this sensitivity to interest rates by conducting stress tests on these firms.[40] FI therefore makes the assessment that the commercial real estate firms' sensitivity to interest rates and the sector's close links to the financial system constitute a vulnerability for the financial system. When conducting the stress tests, FI also

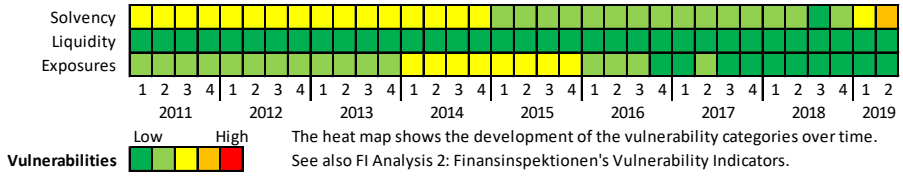
39 According to data from Pangea Research.

40 For more information, see Stability in the Financial System, May 2018, FI, and Commercial Real Estate Market and Financial Stability, May 2019, FI.

carried out a benchmark study of the banks' calculated risk weights for exposures to commercial real estate. The results of the two analyses showed that there is a risk that the capital banks have earmarked for lending to commercial real estate will not sufficiently compensate for the credit losses that could arise following a severe financial stress. It is against this background that FI proposes higher capital requirements for lending to commercial real estate (see "Stability in the banking sector").

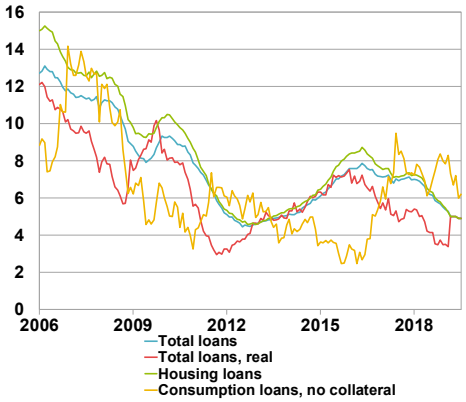
HOUSEHOLD DEBT

Vulnerability indicators for the household sector



40. High but slowing growth rate for household debt

Per cent



Source: Statistics Sweden.

Note. Annual growth rate is adjusted for reclassifications, reassessments, and bought and sold loans.

FI's vulnerability indicators place household debt in relation to income and assets.[41] The aggregate loan-to-value ratio of households has increased, which indicates that household solvency is showing a somewhat elevated vulnerability. This is primarily due to the decrease in the total market value of all homes at the same time as household debt continued rise.[42] In general, however, the indicators show that households as a group have a strong economic position. FI's analysis shows that households are adequately resilient when it comes to paying off their debt, but many households also have a lot of debt. To be able to pay off their debt following major economic shocks, many households may therefore need to make significant cut-backs and reduce their consumption. In turn, this could worsen a crisis and, ultimately, constitute a threat to financial stability.

Household debt has increased rapidly for a long time and is at a high level (Diagram 40). However, growth has slowed in recent years. In Q3 2019, lending to households grew by just under 5 per cent on an annual basis. This means that household debt amounted to 187 per cent of their aggregate disposable income (Diagram 41).

Household savings continues to be high

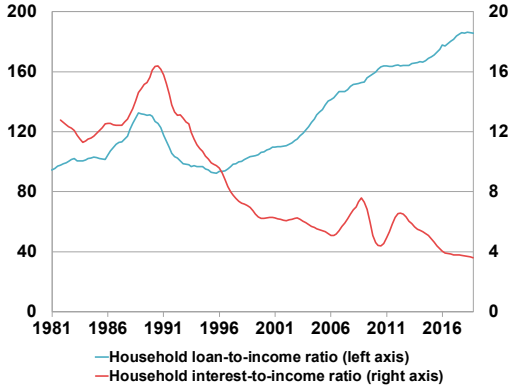
At the same time as debt has grown rapidly, so have households' liquid assets.[43] Households' assets contribute to their resilience. Households' financial net wealth, i.e. financial assets minus liabilities, rose to record-high levels in Q2 2019. This is largely due to the developments on the stock exchange since households' financial assets consist largely of shares. However, new savings and slower

41 The vulnerability indicators are described in more detail in Finansinspektionen (2015), "Finansinspektionen's Vulnerability Indicators", FI Analysis 2.

42 The indicator for the aggregate loan-to-value ratio is based on the ratio of the total market value for single-family homes and households' share in tenant-owned housing units to the lending from monetary financial institutions (MFIs) to households. Since the market value of single-family homes is calculated using the base value, taxation value, and the purchase price, which are based on the developments in 2017 when house prices fell, the results of the aggregate loan-to-value ratio is now increasing after somewhat of a lag.

43 Liquid assets consist of bank savings, bonds, Swedish and foreign shares and funds.

41. Loan-to-income ratio and interest-to-income ratio
Per cent



Source: Statistics Sweden.

Note. Both the loan-to-income ratio and the interest-to-income ratio in relation to disposable income. The interest-to-income ratio refers to a four-quarter moving average.

growth in loans also contributed to the increase in households' financial net wealth since the end of last year.

In September 2019, Statistics Sweden revised its data for households' total savings and consumption.[44] According to the new data, households had saved less and consumed more than what was previously indicated. This means that the household sector as a whole has smaller economic buffers than what was previously assumed. Total household savings is still high. However, assets and savings, just like debt, are not evenly distributed among households. This makes it difficult to measure the resilience created by households' assets.[45] Even if the aggregate savings ratio is high, there may be households that have low savings.

Due to a large credit supply, a long period of low interest rates, and rising house prices, the conditions in Sweden for using a home as collateral to borrow money have been favourable for a long time. As a result, household debt has grown rapidly. Because the economy has now entered a slow-down phase, interest rates will probably remain low for a longer period of time (see "Threats to financial stability"). This could create incentives for households to borrow even more. At the same time, the low interest rates mean that there are limited possibilities for reducing interest rate costs and easing the burden for households following an economic shock.

Amortisation requirements contribute to more resilient households

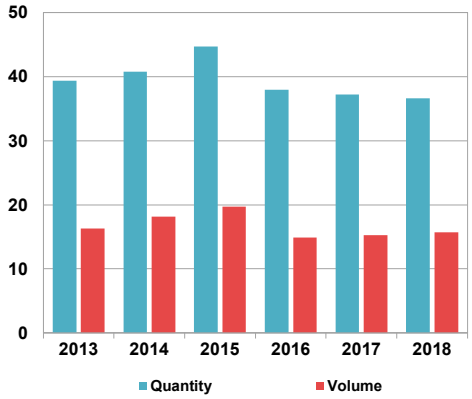
Safeguarding financial stability means being prepared for the unexpected. FI is also tasked with counteracting financial imbalances on the credit market. In order to mitigate the risks associated with household debt, FI has taken several measures, including two amortisation requirements. FI's analyses show that the measures have led to households borrowing less and buying less expensive homes.[46] Household debt is now increasing at a slower rate. Before, the percentage of borrowers with very high debt was also increasing, but this trend has now been broken. By slowing the growth in household debt, the requirements also contributed to making households more resilient to weakened economic conditions. The requirements also played a role in households with large mortgages making smaller equity withdrawals (see "Fewer home equity withdrawals after amortisation requirements").

44 Financial savings have been revised downward by on average 2.5 percentage points since 1994. Real savings, including ownership of, for example, houses, were revised downward by on average 2.2 percentage points during the same time period.

45 See Waldenström, Bastani and Hansson (2018), "How Should Capital Be Taxed? A Swedish Perspective", SNS Economic Policy Report 2018, SNS förlag.

46 For more information, see Finansinspektionen (2017), "Amortisation requirement reduced household debt", FI Analysis 10, and Andersson, M. and Aranki, T. (2019) "Fewer vulnerable households after stricter amortisation requirement", FI Analysis 17, Finansinspektionen.

42. Home equity withdrawals as a percentage of new mortgages
Per cent



Source: FI.

Fewer home equity withdrawals after amortisation requirement

New mortgagors often take out loans for different purposes. Some borrow to buy a home while others withdraw equity from their existing home. This analysis shows the results from Aranki and Larsson (2019) on how the amortisation requirements impacted households' home equity withdrawals.[47]

A long period of low interest rates and rising house prices has meant that households have faced favourable conditions for home equity withdrawals. How households use this equity affects their resilience and in the long run can also affect financial and macroeconomic stability. For example, households withdrawing equity to replace loans with less favourable terms can decrease their future interest rate costs. This make them less vulnerable. Households borrowing to invest (in real or financial assets) can create a financial buffer, but they are then also exposed to changes in value. This can impair their resilience in the event of a shock if assets depreciate at the same time as the debt stays the same. Households borrowing to finance consumption only increase their debt, which decreases their resilience.

The share of home equity withdrawals increased steadily between 2013 and 2015 (Diagram 42). In 2015, 45 per cent of new mortgages were home equity withdrawals. This percentage started to decrease in 2016, and in 2018 approximately 36 per cent of all new mortgages were home equity withdrawals. The percentage of home equity withdrawals among all new mortgages (measured in volume) clearly decreased after the first amortisation requirement in 2016.

The amortisation requirements led to a reduction in the number of households that withdrew equity from their home. This change is most evident following FI's first amortisation requirement, which entered into force in 2016. Fewer households that had large existing mortgages withdrew equity, and those that did withdrew a smaller amount after the requirement went into effect. In addition, home equity withdrawers are affected more by the amortisation requirements than home buyers. The stricter amortisation requirement from 2018 has an impact on significantly fewer new mortgagors, and of these the ones that withdrew equity are affected only to a limited extent.

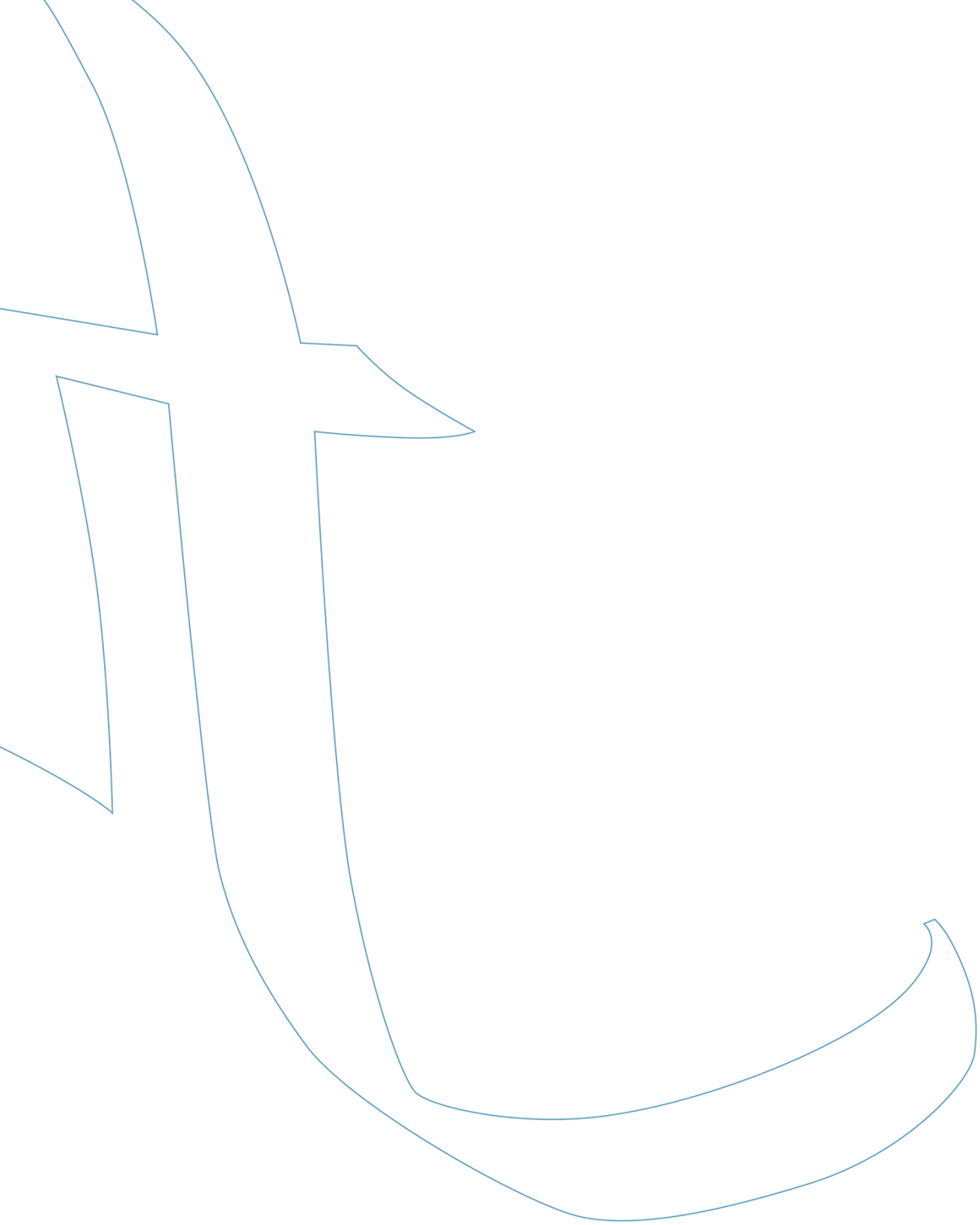
The willingness to use the mortgage for purposes other than to buy a home has decreased as a result of the amortisation requirements. This has probably resulted in a reduction of the vulnerability of these households and that they are better equipped to handle a fall in house prices or a loss of income.

HOUSEHOLD DEBT AND FINANCIAL STABILITY

FI makes the assessment that households in general are adequately resilient when it comes to paying off their debt, but many households have a lot of debt in relation to their income or the value of their home. These households may need to make significant cut-backs and reduce their consumption in the event of major economic shocks. In turn, this could worsen a crisis, thus constituting a threat to financial stability. This could ultimately threaten financial stability as well. At the same time, FI also makes the assessment that the authority's

47 Aranki, T. and Larsson, H. (2019), "Fewer home equity withdrawals after amortisation requirements", FI Analysis 20, Finansinspektionen.

measures have reduced the share of vulnerable households and that the risks associated with household debt are continuing to decrease.



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