REPORT

Stability in the Financial System

01 June 2021

Ref. 21-10882

Contents

Finansinspektionen
Box 7821, 103 97 Stockholm
Street address Brunnsgatan 3
Telephone +46 8 408 980 00
finansinspektionen@fi.se
www.fi.se

Stability assessment

The economic recovery is expected to pick up speed, in part due to vaccinations and the subsequent phase-out of restrictions. Households savings are high, which could now give the economy an extra boost. But the economic downturn was sharp, and it is still a long road back to pre-pandemic levels. For example, unemployment is still high.

Comprehensive support measures have been necessary to offset the economic impact of the crisis and speed up the recovery, but some of these measures can also increase stability risks, in part through greater risk-taking and rising debt. For example, central banks announced in the spring of 2020 that they intended to widely expand the range of bonds they purchase to include several types of issuers with varying credit ratings. As a result, this put pressure on risk premiums, which had increased at the start of the crisis. The measure thus mitigated the stability risks. But risk premiums have now been pushed down to pre-pandemic levels. In the long run, this could induce investors to take on too much risk. Therefore, as the economy recovers, the expansive economic policy needs to gradually return to normal. This should primarily occur by removing the measures that put direct pressure on risk premiums and thus create incentives for some market participants to take on more risk. Because Sweden's economy was less scathed by the pandemic than many other European countries, the removal of such measures should begin earlier here. However, fiscal policy measures that target sectors hit hard by the crisis should not be withdrawn too early since this could slow the economic recovery.

Finansinspektionen (FI) will gradually shift its focus to reinforcing resilience in the financial system to prepare for future crises. In the immediate future, this means that we will lift the exemption on the amortisation requirement and gradually increase the countercyclical capital buffer, with the intention to start the latter in the second half of 2021. FI will also continue its efforts to strengthen the resilience of the corporate bond and fund market.

Risk-taking is high

A prolonged period of low interest rates has contributed to some market participants increasing their risk in their hunt for returns. As risk-taking continued to rise during the pandemic, the prices of risky assets also increased sharply. Compared to previous recovery phases, price levels in this recovery have increased rapidly. The rapidly rising share prices, for example, places high demands on firms’ future profit growth. House prices have also been showing strong growth recently. The comprehensive support measures have fuelled the increase in asset prices and may have created an expectation of similar support measures in future crises. This could mean that risk will continue to build during the recovery, potentially resulting in stronger corrections to asset prices following future shocks, which, for example, could make financing more expensive for firms.

Continued high vulnerability linked to debt

The debt of non-financial corporations and households has been high and rising for a long time. Households have been taking larger mortgages as house prices increased sharply in 2020 and 2021, but the debt of non-financial corporations has been growing at a slower rate since the summer of 2020. Once the recovery picks up speed and the support measures are gradually removed, credit demand from non-financial corporations could increase.

The uncertainty present in some industries creates elevated credit risks in the banks. Credit loss provisions therefore increased during the crisis, but from low levels. Since the number of bankruptcies continues to be low, targeted support measures have been extended, and a strong recovery is on its way, credit losses and provisions are no longer increasing. The risk of a sharp increase in credit losses currently appears to be lower than it was one year ago. The banks' available capital has also increased, largely since the banks did not pay any dividends in 2020 and FI lowered the countercyclical buffer rate to zero. The banks therefore are facing good conditions for supporting the real economy during a recovery phase. They also have capital and liquidity buffers that they can use if the situation were to deteriorate.

FI's position on the banks' dividends that was communicated in December 2020 still stands.[1] Given that the economic recovery continues and the banks can maintain the credit supply, FI does not intend to renew the current recommendation that limits banks dividends and is in force until September. In accordance with current practice, FI's official position will be coordinated with the corresponding assessments that will be made by the European Systemic Risk Board (ESRB) and the European Banking Authority (EBA).

Maturity imbalances and market liquidity problems during the crisis

Many financial firms, such as banks, to a large extent fund themselves with debt that has a shorter maturity than their assets. This created disruptions in the banks' funding during the financial crisis in 2008–2009. Since then, banks have been subject to stricter liquidity requirements, and they entered the crisis in 2020 with significantly better resilience than they have had in previous crises. Instead, liquidity problems arose in the spring of 2020 in corporate bond funds when investors made

[1] For more information: https://www.fi.se/en/published/press-releases/2020/financial-firms-must-be-restrictive-with-dividends-until-september-2021/

large withdrawals. Market liquidity on the bond markets also deteriorated, particularly on the corporate bond market. As a result, it became more difficult for the fund management companies to sell large volumes of corporate bonds and value their assets. They therefore opted to postpone redemption of fund units in the interests of the unit holders.

Following strong support measures, the corporate bond market has recovered, and inflows have returned to the corporate bond funds, but the Swedish corporate bond market is still influenced by limited market liquidity. FI therefore has taken the initiative to increase market transparency with the aim of strengthening the market's overall resilience. FI is also working with measures to improve the fund management companies' liquidity management. For example, we investigated the need for more tools to manage liquidity risks on the fund market in Sweden. We are presenting the results of this investigation in a report to the government.

Large exposures create vulnerabilities

The infrastructure underlying the financial system is concentrated to a small number of firms. Similarly, the banking sector is concentrated to a small number of firms with similar business models. Both the banks and the infrastructure firms are also closely interconnected. This means that problems at one firm could spread to others. Since life insurance and occupational pension undertakings have significant exposures to Swedish banks, these problems can also spread to the insurance sector.

Banks have large exposures to the commercial real estate sectors, which continues to constitute a significant stability risk. In the current environment, where risk-taking and debt are increasing, risks linked to real estate exposures can also continue to rise. There is also some uncertainty surrounding the potential post-pandemic structural changes that might emerge as a result of new work and consumption patterns, which in turn could affect the commercial real estate market.

Life insurance and occupational pension undertakings have large exposures to the stock market and are sensitive to rapid corrections in share prices. If these prices fall sharply and the undertakings need to quickly sell their holdings, this could amplify the market fluctuations and thus deepen a financial crisis. Currently, though, Swedish life insurance and occupational pension undertakings show satisfactory buffers for managing even a large fall in prices without needing to make any major changes to their portfolios.

Updated presentation of FI's assessment

Starting with this report, FI will publish a short update on the stability in the financial system in the spring followed by a longer version in the autumn with more in-depth analyses.

A new feature in this report is that each chapter starts with an illustrative summary of the vulnerabilities related to households and non-financial corporations, financial markets, and the insurance and banking sector. This summary presents FI's assessment of the vulnerabilities and constitutes a basis for FI's work to safeguard financial stability. The illustrative summaries will be included in both the spring and autumn reports.

Each vulnerability is graded by colour: green, yellow, orange or red. Green represents low vulnerability. Yellow, orange and red represent different degrees of elevated vulnerability. There is also an arrow beside each vulnerability that illustrates the change since FI's last report on financial stability. The direction of the arrow shows whether the vulnerability has increased, decreased, or remained the same. The level and change are based on a combination of quantitative metrics and expert assessments.

State of the economy

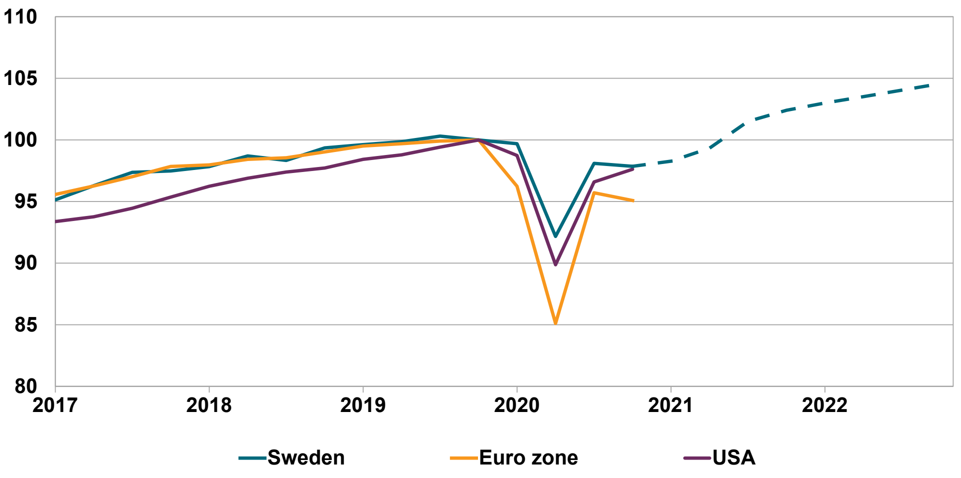
The economy is continuing to recover both in Sweden and around the world. As the economy regains strength, the support measures need to be gradually phased out. This applies primarily to measures associated with the build-up of stability risks.

Global recovery continues

The economic recovery worldwide temporarily stalled at the end of 2020. However, as the number of people vaccinated increases, the spread of the virus can decrease and the restrictions gradually be phased out. This is expected to lead to an increase in household consumption and corporate investments. The recovery is expected to pick up considerable speed in Q2 2021 in the USA and in Q3 in the euro zone (Diagram 1). However, there is still some uncertainty linked to the pandemic, for example mutations of the coronavirus and the long-term economic impact.

1. Economy continues its recovery

Index, Q4 2019=100

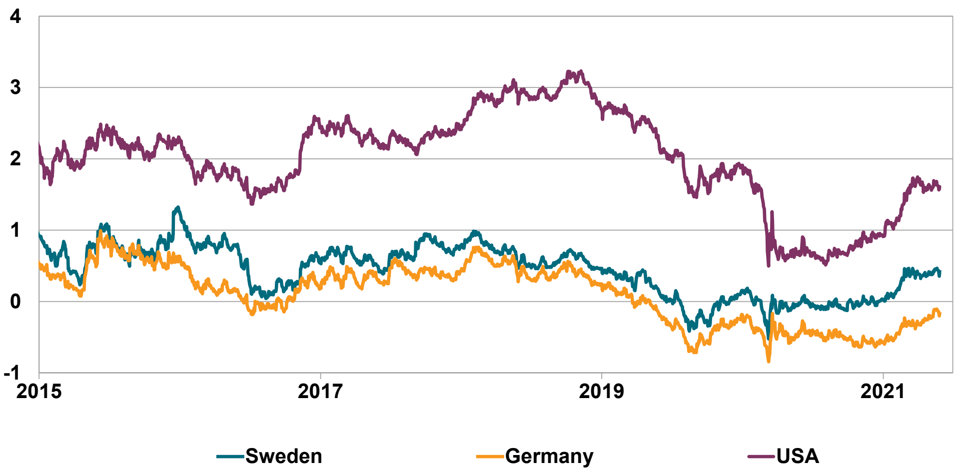


Source: FI and the National Institute of Economic Research (NIER).
Note: GDP growth. Dashed lines are based on NIER's forecast from March 2021. Seasonally adjusted data.

There are also other factors that can impact both the economic recovery and the financial system. Risk-taking in the financial markets has continued to increase, which contributes to rising asset prices. This could result in strong corrections in the future. At the beginning of the year, government bond yields with long maturities increased rapidly in the USA (Diagram 2). This increase initially spread to other countries as well. Despite the rapid increase, interest rates are still low. But if they were to increase rapidly and over a long period of time, this could lead to, for example, major corrections in riskier assets and rising financing costs for banks, non-financial corporations, households and countries.

The fiscal policy measures are a burden for many countries' public finances, and since the start of the pandemic sovereign debt has been climbing steeply. The public finances of several European countries were already weak before the pandemic, which makes it more difficult to maintain support measures in the long run. At the same time, the measures have been very important in weaker economies, and phasing them out too early could have a negative impact on the recovery. Once the fiscal policy measures are phased out, more non-financial corporations may experience difficulties managing their debt payments. This could lead to increased credit losses for the banks. Some European banks also had problems with low profitability and a high share of non-performing loans already before the pandemic.

2. Government bond yields with long maturities increased rapidly, particularly in the USA
Per cent



Source: Refinitiv Datastream.
Note: 10-year government bond yields.

Brighter economic horizon in Sweden

The recovery in Sweden is also continuing (Diagram 1). The industrial sector is developing strongly. For close-contact services, such as the hotel and restaurant industry, the situation is still challenging. The number of people vaccinated is steadily increasing, though, with the gradual lifting of restrictions most likely to follow. Overall, the recovery prediction is brighter than it was in the autumn, and the economy is expected to pick up quite a bit of speed in the third quarter of the year. Unemployment has fallen slightly, but continues to be high.[2] At the same time, corporate recruitment plans have become more optimistic, and demand for labour could therefore increase in the near future.

Comprehensive support measures have been necessary to offset the economic impact of the crisis, but they can also contribute to greater stability risks in the long run, such as rising debt and greater risk-taking. As the economic recovery continues, these support measures need to be gradually phased out. This applies first to measures that encourage greater risk-taking. The Swedish economy has been less impacted by the crisis than many other economies in Europe. It is therefore reasonable to begin such a phase-out earlier here.

[2] In April, unemployment was 8.2 per cent, according to statistics from Swedish Public Employment Service.

Households

Low interest rates combined with rapidly rising house prices contributed to households borrowing more, in relation to both their income and the value of their home. Most households that have taken new loans have margins enabling them to meet their debt service payments even if their personal finances were to deteriorate. But if interest rates rise, they may need to make major adjustments.

	Level	Change
Debt	Orange	↗
Cash flow	Green	→
Liquid assets	Yellow	→

The colours indicate the current level of vulnerability. Green represents low vulnerability. Yellow, orange and red indicate different degrees of elevated vulnerability. The arrows illustrate how the vulnerability has changed since FI's last report on financial stability. The direction of the arrow shows whether the vulnerability has increased, decreased, or remained the same. The level and change are based on a combination of quantitative metrics and expert assessments.

Households save more

The crisis has had a very different impact on households. Some have managed the crisis relatively well, but others have experienced higher unemployment and lower income. The negative economic effects have had less of an impact on people with permanent employment, who more often have the possibility of borrowing to buy a home. Working from home and other restrictions have resulted in new consumption patterns. For some households, this has meant lower expenses and greater possibilities for savings or home-related consumption. At the same time, the large number of people working from home probably increased both demand for larger homes and a desire to allocate a larger percentage of income to the home. Interest rates are also low and are contributing to interest rate payments in relation to disposable income remaining at historically low levels. Overall, this has in part resulted in the rapid increase in house prices in both 2020 and the spring of 2021 despite the weak economy (Diagram 3).[3]

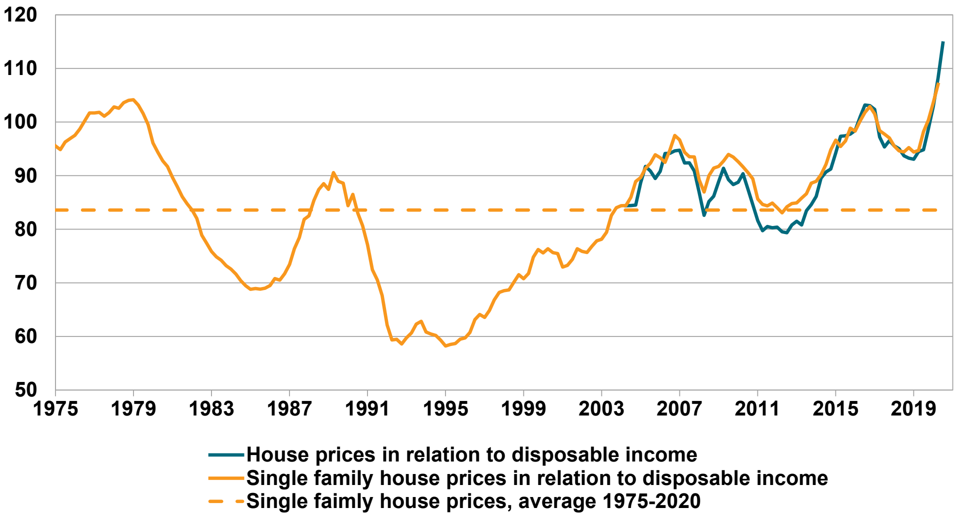
Higher and rapidly rising house prices usually lead to faster growth in mortgages, after somewhat of a lag. Household debt has also be gradually picking up speed since the start of the pandemic and can be expected to continue to accelerate. Both house prices and total household debt in relation to income peaked in Q1 2021.

[3] If household demand recovers, either in part or in full, when the economy returns to normal, this could have a negative impact on house prices.

Loan-to-value ratios and loan-to-income ratios among new mortgagors also continued to increase.[4] Growth in consumption loans, though, slowed considerably during the crisis.

3. House prices increased significantly more than income

Index, 1980 = 100



Source: Statistics Sweden and Valueguard.

Note: Refers to an index for the ratio of single-family dwelling prices to household disposable income.

New borrowers have good repayment capacity

Even if household loans have reached record-high levels and house prices have risen rapidly, new mortgagors still have a good repayment capacity. In addition, households are still borrowing in such a way that they have capacity to take additional loans after their latest home purchase.[5] In FI's stress tests, few households have a deficit if interest rates increase or they experience unemployment. This means that most new mortgagors would still be able to make their debt service payments without having to use savings. Therefore, the risk of major credit losses from mortgages is still judged to be low. As demonstrated during the crisis, mortgagors

[4] The most recent mortgage market survey contains data from September 2020. Since then, house prices have increased by an additional 9 per cent. It is therefore probable that the trend of rising loan-to-value ratios and loan-to-income ratios has continued since then. For more information, see "Den Svenska Bolånemarknaden 2021", published on 24 March 2021. An English translation is available at www.fi.se.

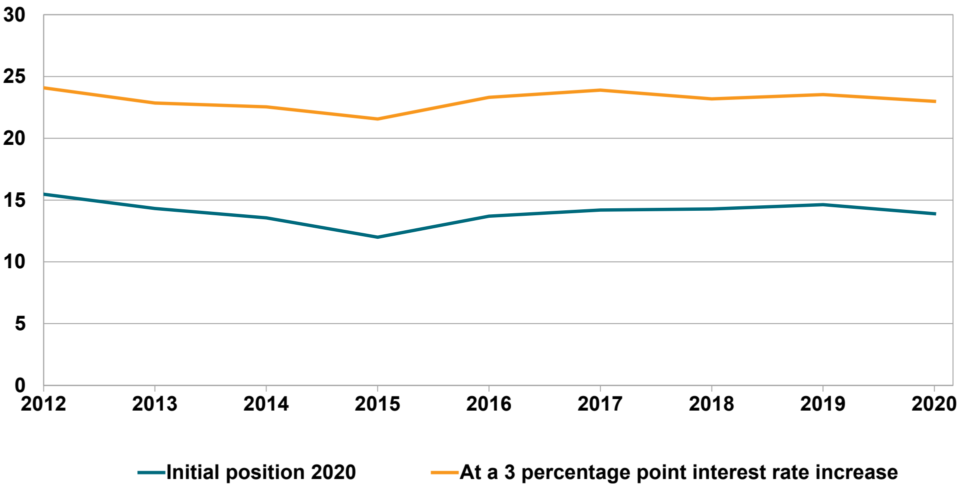
[5] If new mortgagors have continued since the most recent mortgage survey to take larger loans both in relation to the value of the home and their income, both their loan capacity after taking the mortgage and their repayment capacity may have decreased.

can also temporarily decrease their debt service payments by utilising the exemption in the amortisation requirements.[6]

But even if the risk of credit losses is low, in a crisis mortgagors may be forced to reduce other consumption to meet their loan payments. If the interest rate or unemployment increases, households would need to allocate a significantly larger share of their disposable income to pay for their loans, thus adapting either their savings or consumption (Diagram 4). For households with little savings, this would mean that their consumption would decrease sharply. The risk of major adaptations can be offset by the lender, in line with current amortisation rules, granting a temporary exemption from amortisation requirement following a loss of income.

4. Large loan payments if interest rates rise

Per cent



Source: FI.

Note: Refers to interest rate payments and amortisation payments in relation to disposable income (debt service ratio) of households with high debt service ratios, estimated at the 75th percentile.

Household savings are high but unevenly distributed

One of the households' most important buffers for managing disruptions is their liquid assets. Swedish households' savings have increased over a longer period of

[6] Just like before the crisis, the banks continue to have the possibility to grant individual borrowers temporary exemption from amortisation payments on special grounds. The term *special grounds* in section 11 of Finansinspektionen's regulations (FFFS 2016:16) on amortisation of mortgages includes, for example, situations such as unemployment, death in the family or illness.

time. As a result of restrictions and changed behaviour during the pandemic, aggregate household saving as a share of aggregate income has increased.[7] But household savings are distributed unevenly. Households with large loans appear more likely to have had small liquid assets during previous periods.[8] Due to a lack of data on household assets, it is not possible to determine which types of households have been responsible for the increase in savings in recent years or how liquid assets are distributed between households.[9] If it is primarily households that have previously had low liquid assets that are increasing their savings, this is more positive for the overall resilience than if it is already resilient households that are increasing their savings.

[7] Refers to the savings ratio, i.e. aggregate saving in relation to aggregate income.
[8] An estimate shows that among households in the top loan quartile in 2012 just over one-third had less than SEK 100,000 in liquid assets. For more information, see Andersson and Vestman (2021) "Svenska hushålls likvida tillgångar", FI Analysis 28, FI. An English summary is available at www.fi.se.
[9] The vulnerabilities associated with households' liquid assets and, by extension, households' total vulnerabilities are thus more difficult to assess.

Non-financial corporations

Even though the economic recovery has begun, many firms have a long road ahead of them to return to pre-pandemic levels. Corporate debt is growing more slowly now than it was before the crisis, but lower income combined with larger debt has made them more vulnerable. Commercial real estate firms have large debt, and this debt still constitutes a threat to financial stability.

	Level	Change
Debt growth	(orange)	↘
Leverage	(orange)	↗
Refinancing	(yellow)	→

The colours indicate the current level of vulnerability. Green represents low vulnerability. Yellow, orange and red indicate different degrees of elevated vulnerability. The arrows illustrate how the vulnerability has changed since FI's last report on financial stability. The direction of the arrow shows whether the vulnerability has increased, decreased, or remained the same. The level and change are based on a combination of quantitative metrics and expert assessments.

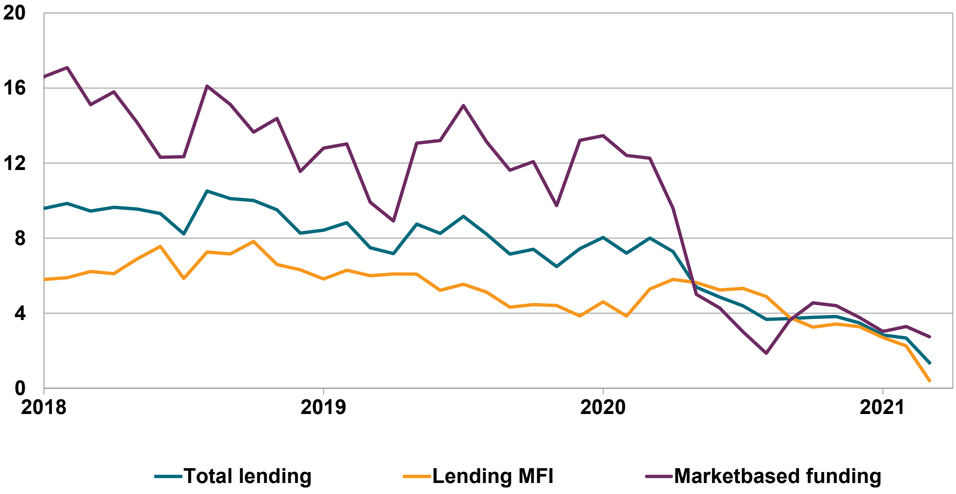
Corporate loans are large, but growing more slowly

In the past few years, the vulnerabilities associated with corporate loans have increased and today are relatively large. Since the summer of 2020, the growth of corporate loans has been slowing (Diagram 5).[10] This means the vulnerabilities associated with rapidly rising corporate loans have also decreased slightly. One reason that some firms are now borrowing less, and total corporate debt is not growing as fast as it was before, could be that there is less demand for loans since firms to some extent have postponed planned investments. Earnings have also normalised for some, primarily large, firms. This reduces their need for new loans to cover temporary losses of income. The fact that corporate lending still increased during the crisis is one of several indications that this crisis has been different. In earlier crises, firms have often experienced a credit crunch, which has amplified the negative impact on the economy. The fact that banks went into this crisis with significant capital buffers, combined with various support measures, helped make it possible to maintain the supply of credit even if banks to some extent also in this crisis have been more cautious with their lending.[11] As the economic recovery continues and investments increase, demand for loans may also increase.

[10] Although this varies across industries. Firms in some industries have taken more and increasingly larger loans while firms in other industries have taken fewer loans.
[11] One indication of this is that local bank offices made the assessment that firms in 2020 found it gradually more difficult to get a bank loan according to ALMI's Lending Indicator.

5. Corporate loan growth slows

Annual percentage change



Source: Statistics Sweden.

Note: "Lending MFI" refers to loans from monetary financial institutions to non-financial firms according to financial market statistics (Statistics Sweden). "Market financing" refers to non-financial firms' issued bonds and commercial paper according to issued securities statistics (Statistics Sweden).

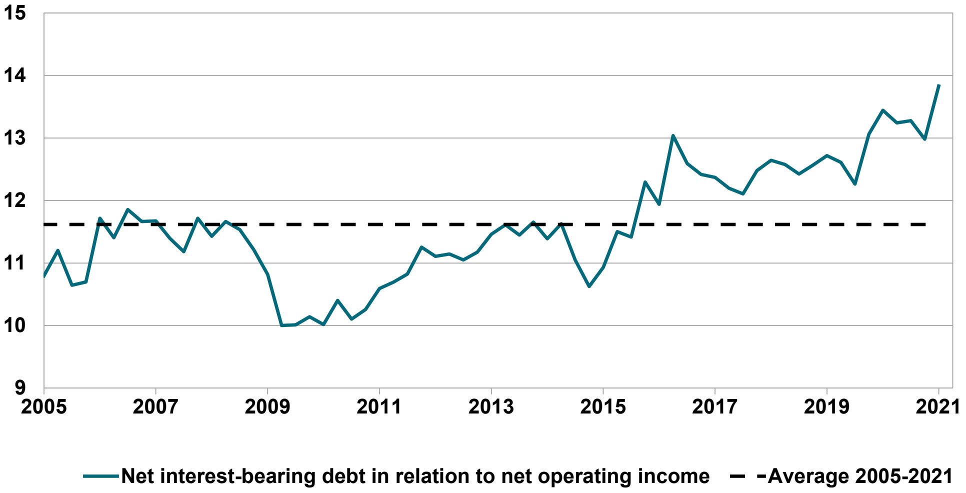
Continued weak sales for non-financial corporations

Because firms' income in 2020 and 2021 has been lower than in previous years, there is a risk that their ability to make interest and amortisation payments on their loans may have deteriorated. At the same time, some firms have large and growing debt in relation to their cash flow. This is particularly evident for commercial real estate firms (Diagram 6). The combination of lower income and more debt has increased firms' leverage ratio and thus their vulnerability to higher financing costs. Even if the crisis's long-term effects on firms' businesses are difficult to predict, it is probable that the build-up of debt has made the firms more vulnerable. In addition, there are still incentives for risk-taking, such as low financing costs and support measures. This could mean an environment that would continue to foster debt growth and an increasing number of vulnerable firms as a result.

To date, most firms have managed to pay off their loans, and since the summer of 2020 the number of firms declaring bankruptcy has been below or in line with previous years. If the economic recovery were to slow, or if direct support measures that support particularly exposed businesses were to be withdrawn too quickly, there is a risk that bankruptcies would increase. Since many different industries are dependent on one another, problems can spread from one industry to another. For example, problems at firms that rent office or store premises could impact the rental income of commercial real estate firms. So far, commercial real estate firms' rental income has dipped somewhat, in part due to an increase in vacancies.[12] The ongoing economic downturn means that there is still an elevated risk that vacancies will continue to increase.[13] Overall, the lower economic activity in 2020 slowed real estate prices, particularly in more exposed segments such as retail and hotel properties.[14]

6. Commercial real estate firms are highly leveraged

Ratio



Source: Catella and FI.

Note: Refers to listed real estate firms on Nasdaq Nordic Main Market and their net debt, defined as total interest-bearing liabilities minus cash and cash equivalents.

Fewer firms experience difficulties raising financing

The pandemic has impacted firms in different industries differently. For example, industrial and commercial real estate firms have emerged from the crisis relatively strong. But for many firms the road back to pre-pandemic levels in terms of net sales and production continues to be long, primarily for smaller firms. The measures that have been taken cover parts of the firms' liquidity needs. Large firms are experiencing today that it is easier to raise new financing than it was a year ago, but small firms are not experiencing the same ease. Firms with existing loans, though, are experiencing satisfactory refinancing options.

[12] The commercial real estate sector is impacted slowly and gradually by the reflection of the general economic development on the rest of the commercial sector.

[13] Rental contracts for commercial premises tend to be 2–5 years. Therefore, for cost reasons, it takes time before firms are able to terminate rental contracts. As a result, vacancies tend to increase with somewhat of a lag.

[14] Values for commercial real estate have reacted differently in different segments. For example, the values for retail and hotel properties decreased in 2020.

The majority of firms are securing their financing with bank loans. Some firms, primarily those in commercial real estate, are raising more financing through bonds with a relatively short maturity. Around 18 per cent of the firms' outstanding bonds will fall due in the next twelve months. This is slightly higher than what has been the case in the past five years. Under certain circumstances, bond-based financing can disappear quickly or become significantly more expensive – which happened in the spring of 2020.[15] This potentially creates a need to replace a large portion of the bonds that fall due with bank loans. In the spring of 2020, the banks were able to meet this need. But if banks in such a situation find it difficult to meet the firms' need for credit, this can create a negative spiral with both rapidly rising financing costs and falling prices on assets that are also used as collateral for bank loans.

[15] Problems can also arise if firms violate the financial requirements (so-called covenants) that are associated with the bond loan or their credit rating can be impaired. Following these types of events, there is also contagion risk, i.e., that it will spread to other firms in the same industry.

Stability in the financial markets

Risk-taking in the financial markets is high and is being fuelled in part by the support measures that were taken. The market turbulence that occurred at the beginning of the pandemic showed the weaknesses in, for example, the corporate bond market and the fund sector. Since market financing is an important and growing part of the credit supply, its resilience to shocks must be strengthened.

	Level	Change
Risk-taking financial markets	Red	↗
Market liquidity	Yellow	→
Financial infrastructure	Yellow	→

The colours indicate the current level of vulnerability. Green represents low vulnerability. Yellow, orange and red indicate different degrees of elevated vulnerability. The arrows illustrate how the vulnerability has changed since FI's last report on financial stability. The direction of the arrow shows whether the vulnerability has increased, decreased, or remained the same. The level and change are based on a combination of quantitative metrics and expert assessments.

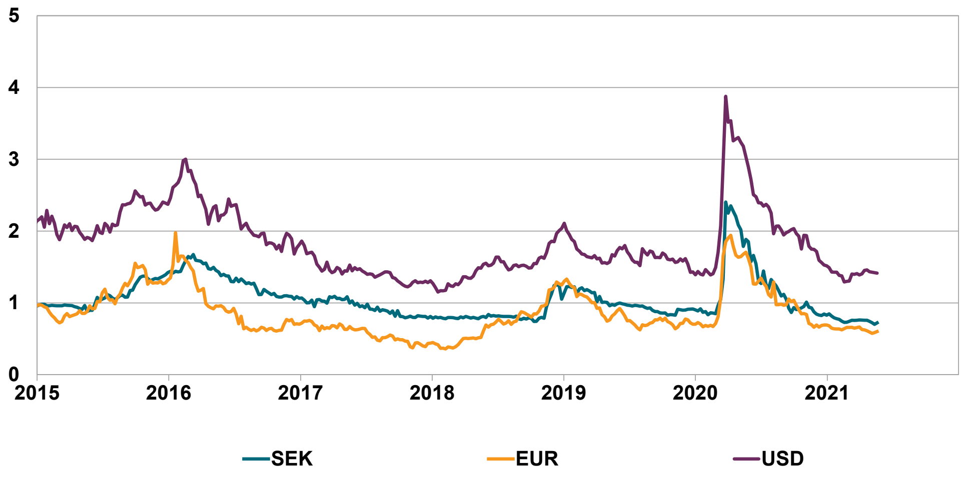
High risk-taking in the financial markets

The powerful monetary and fiscal policy measures that were implemented in the spring of 2020 have contributed to a strong recovery in the financial markets. Shortly after the initial turbulence, investors once again returned to risky assets in search of yields, and this development has continued since then. Prices on the stock markets continued to rise, and the number of IPOs has increased sharply. Because the expected growth in profit does not correspond to the change in prices, the share valuations, in the form of forward-looking P/E ratios (share price/earnings per share) have risen above its historical average. The credit market has also recovered, and on several bond markets, new issues have increased. Risk premiums on corporate bonds have fallen to pre-pandemic levels (Diagram 7). Measures from central banks, for example notification and purchase of corporate bonds, helped the corporate bond market recover during the crisis and provided firms access to market financing. In the long run, though, there is a risk that far-reaching and long-term measures affect pricing of risk on the bond market and investors are increasing their investments in riskier firms.

As risk-taking continues to increase and asset prices are rising, it is possible that vulnerabilities are continuing to build up and there is a greater risk for new, more powerful corrections. A shock could lead to renewed turbulence, which could cause prices to drop dramatically in many asset classes. If the fall in prices were to lead to problems with financing for financial and non-financial firms or pose a threat to other central functions, this could entail risks for financial stability.

7. Risk premiums back at low levels

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 respective currency. All with a maturity of 5 years.

Bond market's resilience needs to improve

When the pandemic broke out in the spring of 2020, the bond markets throughout the world experienced problems. In Sweden, the government bond and covered bond markets were slightly impacted, which was reflected, for instance, in a deterioration in market liquidity.[16] However, it was primarily on the corporate bond market that major problems arose as many investors wanted to sell their corporate bonds issued in SEK at the same time as few wanted to buy.

Strong support measures stabilised the bond markets relatively quickly in the spring of 2020, but the market for corporate bonds issued in SEK is relatively small, and market liquidity is limited. In order for the corporate bond market not to constitute a risk to financial stability, its functionality must improve. FI would like to strengthen the market's resilience and has initiated measures to improve transparency together with market participants. As a result, market participants, to a greater extent, will publish after a transaction information about prices and volume.[17] This, in turn, can create conditions for better market liquidity and price dis-

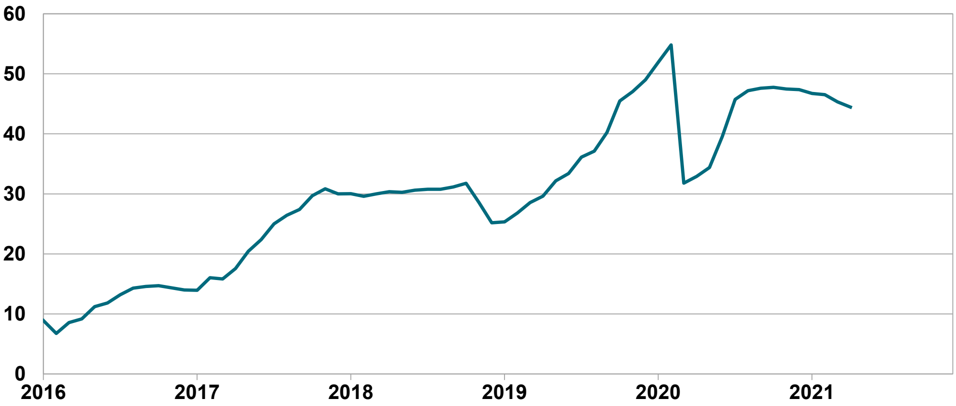
[16] For more information about how FI measures market liquidity on the treasure bond and covered bond markets, see Crosta A. and Zhang D. (2020), "Nya likviditetsindikatorer för räntemarknaden", FI Analysis 21, FI. An English translation is available at www.fi.se.
[17] For more information, see, for example: https://www.fi.se/sv/publicerat/nyheter/2020/ny-sjalvreglering-for-okad-transparens-pa-obligationsmarknaden/. Available in Swedish.

covery even during turbulent periods. Larger and more homogeneous issues, to facilitate trade on the secondary market, and a more diversified investor collective could also help improve resilience.

In the spring of 2020, large withdrawals were made from corporate bond funds, which amplified the problems on the Swedish corporate bond market (Diagram 8). The withdrawals increased the number of corporate bonds for sale on the market, which added additional pressure to the prices at the same time as the possibility for firms to raise financing through new issues was sharply restricted. Fire sales, i.e., when fund management companies quickly sell assets, and the resulting additional pressure on prices amplify the problems on the market. Another weakness that became apparent was liquidity risks arising from funds with daily redemption investing in instruments with limited liquidity. If it is difficult to sell less liquid assets, like in this case corporate bonds, the fund managers may need to sell more liquid assets. This means that problems can spread to other financial markets and market participants. Discussions are under way in Sweden and internationally about fund management companies needing more tools to facilitate their liquidity management and reduce contagion risks.[18] FI has submitted a report to the government presenting its investigation into the need for additional tools for liquidity risk management for the Swedish fund market. The report concludes that fund managers are able to use a certain type of swing pricing, which in the report is called adjusted sale and redemption price, in UCITS and special funds.[19] FI also emphasises that UCITS in many cases can be open for redemption on a weekly basis instead of on a daily basis.[20]

[18] For more information, see, for example, "Recommendation of the European Systemic Risk Board of 6 May 2020 on liquidity risk in investment funds" (ESRB/2020/4).
[19] This means that the fund manager adjusts the fund's net asset value per share to allow for the costs and price effects derived from large in- and outflows.[19]
[20] For more information, see "Likviditetsverktyg i värdepappersfonder och specialfonder", June 2021, FI. A summary is available in English at www.fi.se.

8. Large withdrawals from corporate bond funds in the spring of 2020
SEK billion



Source: Swedish Investment Fund Association.
Note: Refers to accumulated net flows.

Financial infrastructure must have good governance and control

Financial infrastructure consists of firms that provide technological systems for payments, settlement of securities business and managing of counterparty risks.[21] This infrastructure is central for functional markets and financial stability.

There are a number of changes under way within the financial infrastructure, which means that matters related to the operational activities are key. For example, greater digitalisation is placing higher demands on cyber and information security.

The payments sector is also undergoing a structural transformation, both in Sweden and in the rest of Europe. Recent technological advancements combined with new international standards and legislation have led to a major reshuffling, and new firms may be established.[22] However, the current Swedish payment infrastructure is not designed to meet these changes and thus needs to undergo major changes to meet the needs of the market.

In order for the financial infrastructure to function well, even during periods of transition, firms must have good governance and control and sound management and evaluation of suppliers of critical services. Firms must also have stable IT systems and sufficient staffing. This applies to day-to-day operations and plans for

[21] Systemically important Swedish infrastructure firms are Bankgirot, which clears mass payments, the central securities depository Euroclear Sweden AB, and the central counterparty Nasdaq Clearing AB.
[22] For example, a new standard for sending payments (ISO 20022) and the second payment service directive (PSD 2).

continuity and crisis management in order to increase firms' opportunities to deliver their services even in stressed situations. If these matters are not managed, they can instead contribute to greater vulnerability in the financial sector.

Stability in the insurance sector

Insurance and occupational pension undertakings continue to have good solvency, but the low market rates remain a challenge for many undertakings with long-term financial commitments. Therefore, there is still a need for returns from riskier assets.

	Level	Change
Low interest rates and high guarantees	Yellow	→
Investment risk	Orange	↗
Financial position	Green	→
Concentration of assets	Yellow	→

The colours indicate the current level of vulnerability. Green represents low vulnerability. Yellow, orange and red indicate different degrees of elevated vulnerability. The arrows illustrate how the vulnerability has changed since FI's last report on financial stability. The direction of the arrow shows whether the vulnerability has increased, decreased, or remained the same. The level and change are based on a combination of quantitative metrics and expert assessments.

Low market rates still a challenge

Many life insurance and occupational pension undertakings have long-term commitments with financial guarantees and are therefore sensitive to market rates with longer maturities. Market rates have risen recently, primarily in the USA (Diagram 2, State of the economy), but from a historical perspective they are still very low. In order to handle the lower possibilities for returns on interest-bearing securities, which constitute a large portion of their assets, the undertakings have needed to decrease their financial guarantees over the past few years. In addition to the guaranteed amount, bonuses are paid based on the yield in the investment portfolios. To generate a return, the undertakings therefore need to invest in riskier assets, for example shares.

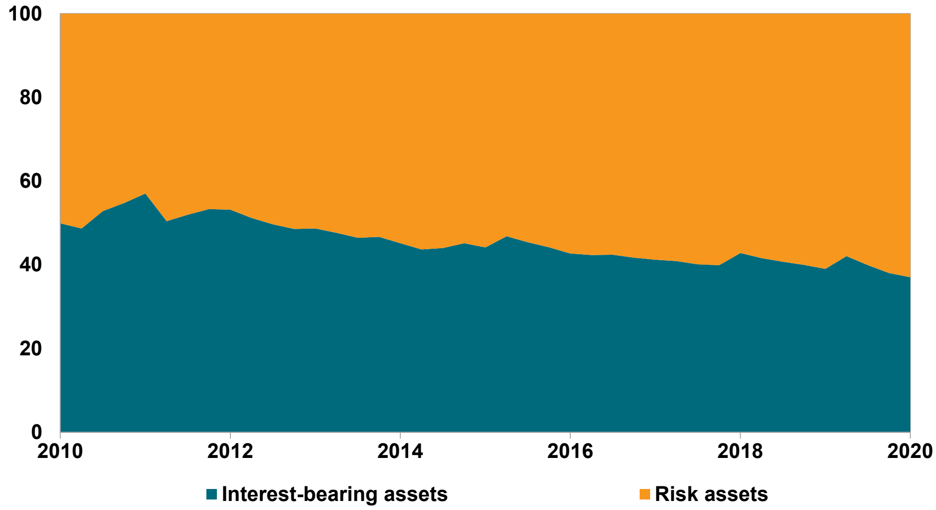
Greater risk-taking in investments

Swedish life insurance and occupational pension undertakings have a relatively large share of their assets invested in risky assets, primarily in shares (Diagram 9). They have therefore benefited from the strong growth on the stock market, but they are simultaneously sensitive to turbulence and rapid corrections in share prices. If a shock occurs, this could lead to a large fall in prices, which could impair the undertakings' solvency. To manage a significantly weakened financial position, they may need to reduce the risks in their investment portfolios, for example by selling shares and buying government bonds. This puts additional pressure on prices under already stressed market conditions, which in turn can have an impact on financial stability. Currently, however, the undertakings have satisfactory buffers for managing even major shocks to the financial markets. A downturn in the financial markets would therefore need to be more extensive and persistent for the firms to need to make large changes to their portfolios to maintain satisfactory solvency.

To not only increase diversification but also create higher returns, the undertakings are also investing in riskier assets, of which some are less liquid, like real estate and so-called alternative assets.[23] Investments in these assets have increased over time. These investments are not traded on regulated markets, which can limit the opportunities to sell them, particularly during economic recessions. The life insurance and occupational pension undertakings that invest in these types of assets generally have a strong financial position and good liquidity.

9. Share of risk assets has increased over time

Per cent



Source: Statistics Sweden.
Note: "Interest-bearing assets" consists of listed interest-bearing assets, subordinated loans, corporate bonds, and cash and cash equivalents. "Risk assets" consists of shares, real estate, alternative investments, and unlisted direct loans.

Financial position still satisfactory

The solvency of life insurance and occupational pension undertakings deteriorated in February and March 2020 following the turbulence on the financial markets but then rebounded already at the end of the first quarter due to the rapid recovery on the markets. Since then, their solvency has been further strengthened and is back at a satisfactory level. Even traffic-light ratios have shown the same trend and are

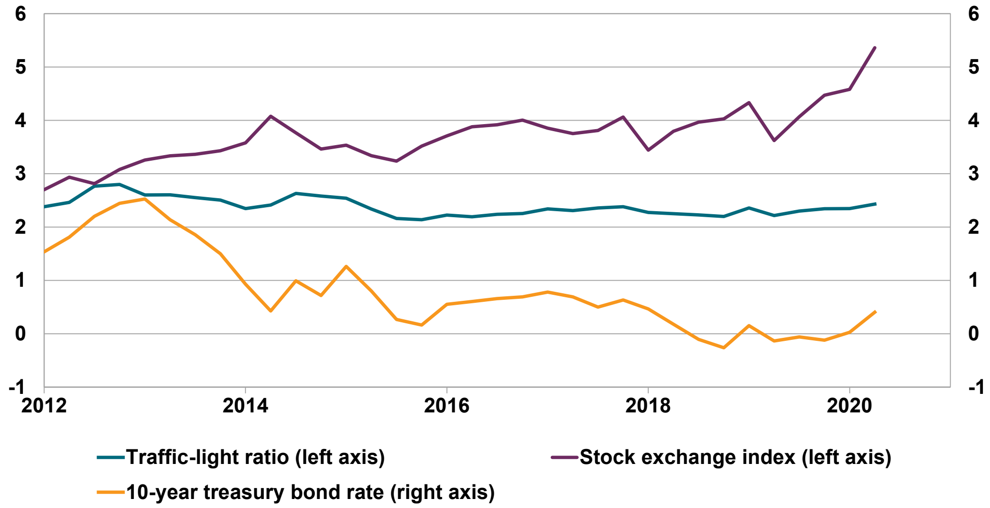
---

[23] Holdings in real estate refers to both commercial real estate and residential properties. Alternative investments include primarily investments in private equity and other risk capital funds, hedge funds, structured products, loan funds, direct loans, infrastructure and other unlisted shares.

now back at earlier stable levels (Diagram 10)[24]. Despite dips in both the solvency ratio and the traffic-light ratio in the spring of 2020, no undertakings reported that they were below the approved level.

There is a risk that the regulations that apply to insurance and occupational pension undertakings underestimate long-term commitments during prolonged periods of low interest rates. The long-term equilibrium rate used to calculate the present value of future pension liabilities is higher than the current market rates. This means that the value of the liability is lower and, correspondingly, the solvency higher than if market rates were used. Given that market rates have increased recently – at the same time as the long-term equilibrium rate has been slowly adjusted downward – the difference has decreased, thus decreasing even the risk that the future liability has been underestimated. Currently, the firms have good buffers for also managing a potential underestimation of future pension commitments.

10. Traffic-light ratios still stable
Ratio (left axis) and per cent (right axis)



Source: FI, Nasdaq OMX and the Riksbank.
Note: Traffic-light ratio for life insurance firms that still use the Solvency I regulations in relation to the growth of a yield index for Swedish shares and the ten-year government bond rate.

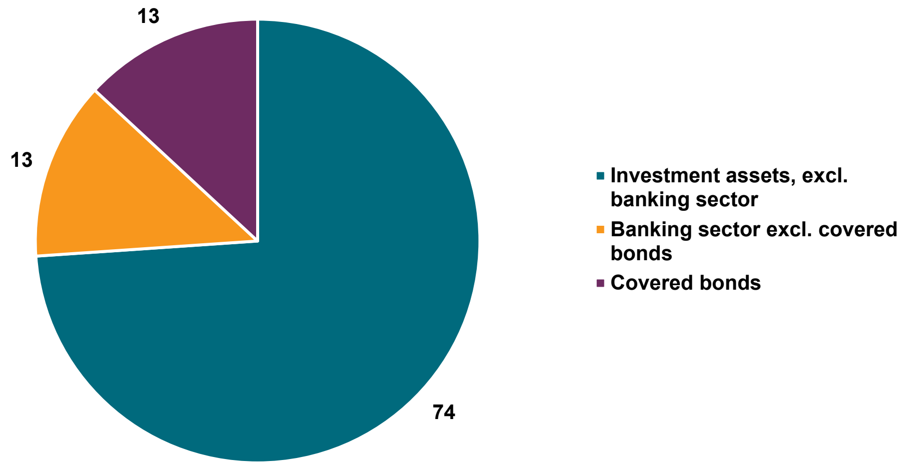
[24] The traffic-light is a supervisory tool that places the capital buffer held by an insurance undertaking (assets minus liabilities) in relation to an estimated capital requirement based on the insurance undertaking's exposures to various risks. If an undertaking has a capital buffer of SEK 200 million and a capital requirement of SEK 100 million, its traffic-light ratio is 2. The traffic-light applies to a large share of the life insurance and occupational pension activities.

Significant exposures to the banking sector

Swedish life insurance and occupational pension undertakings have a larger share of assets in securities linked to the banking sector than many corresponding undertakings in Europe[25] do. Approximately half of these assets are covered bonds while the rest are other exposures, for example shares and commercial paper, and are primarily to Swedish banks (Diagram 11). This means there is a concentration risk not only to the sector itself but also in terms of geography. However, this vulnerability is offset by the fact that Swedish covered bonds have historically proven to be low risk and Swedish banks are generally much stronger than banks in the rest of Europe. But if problems arise in one bank, this could spread to several banks and thus lead to a general fall in prices on securities issued by Swedish banks. This would in turn have a negative impact on the investment portfolios of insurance and occupational undertakings, with a risk for impaired solvency.

11. Exposure to the banking sector

Per cent



Source: FI.

Note: Exposure to covered bonds and other bank exposure compared to total investment assets. The diagram refers to firms that reported in accordance with Solvency II on 31 March 2021.

[25] EIOPA Financial Stability Report – July 2020 published by European Insurance and Occupational Pensions Authority (EIOPA).

Stability in the banking sector

The ongoing crisis creates elevated credit risks in corporate lending and has an impact on the banks' results. At the same time, the banks have so far managed to handle the crisis well. They are able to support households and corporates in a recovery phase, and they have capital and liquidity buffers that can be utilised if the economy were to deteriorate.

	Level	**Change**
Concentration and interconnectivity		→
Solidity and profitability		↘
Asset quality and credit risk		→
Funding and liquidity		→

The colours indicate the current level of vulnerability. Green represents low vulnerability. Yellow, orange and red indicate different degrees of elevated vulnerability. The arrows illustrate how the vulnerability has changed since FI's last report on financial stability. The direction of the arrow shows whether the vulnerability has increased, decreased, or remained the same. The level and change are based on a combination of quantitative metrics and expert assessments.

Banking sector concentrated and interconnected

The Swedish banking sector is largely concentrated to five major banks – Svenska Handelsbanken (SHB), SEB and Swedbank, as well as Nordea and Danske Bank's Swedish branches and mortgage companies.[26] The major banks are closely interconnected, both to one another and to other parts of the finance sector. This creates structurally elevated vulnerabilities in the financial system – if any of the major banks have problems, these problems can quickly spread to other financial firms. In recent years, competition on the banking market increased and the major banks have lost market shares on some submarkets. The concentration in the banking sector has therefore decreased somewhat over time, but despite this the major banks still play a central role in Sweden.

Good resilience but elevated vulnerabilities

The major banks went into the pandemic with significant capital buffers. In 2020, the banks' increased their management buffers – the capital banks hold over and above their capital requirements (Diagram 12). This is in part because FI and other Nordic authorities lowered the countercyclical buffer rate at the beginning of the

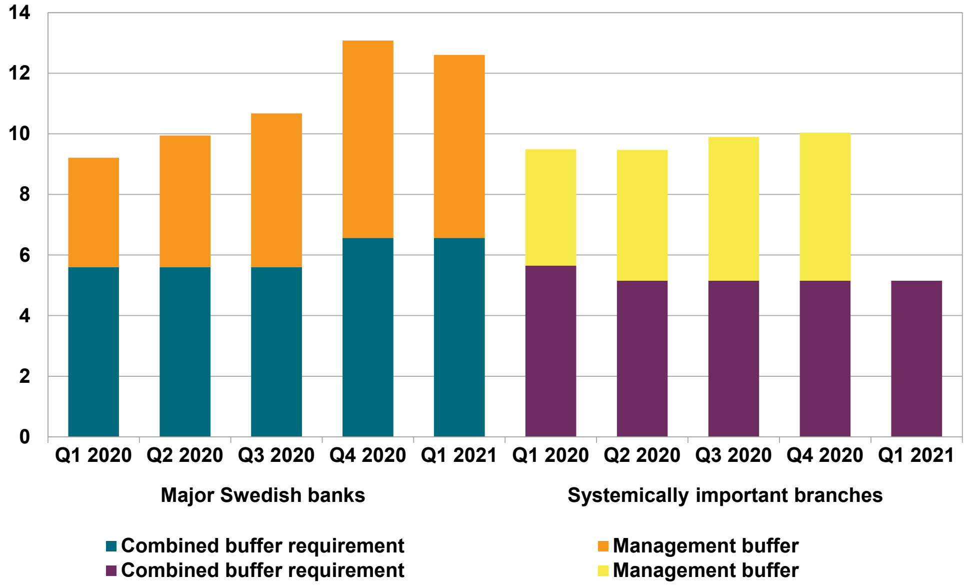
[26] For the five major banks, the figures refer to the consolidated situation unless otherwise specified. Together they represent around 75 per cent of deposits and lending to Swedish households and corporates and just under 70 per cent of domestic payments. Danske Bank's and Nordea's Swedish branches are referred to in the following as "systemically important branches".

crisis to free up capital in the banks. In addition, the banks did not issue dividends in 2020 in accordance with the recommendations from FI and other European authorities. The banks therefore have satisfactory margins and should be in a good position to support households and corporates in a recovery phase. Given that the economic recovery continues to be strong and the outlook stabilises, FI's goal is to start to introduce gradual increases to the countercyclical buffer rate during the second half of 2021. FI does not intend to extend the current recommendation to be restrictive with dividends and share buy-backs that is in place until September 2021, given that the recovery continues and the banks can maintain the credit supply.[27] Following current practice, FI's final position will be coordinated with the corresponding assessments that the ESRB and the EBA will conduct.

The profits of the major banks were weakened at the start of the pandemic, primarily due to increased credit loss provisions. At the same time, the drop in profitability in the Nordic banks has been relatively limited compared to the European banking sector as a whole. The five major banks continued to have high operating income, and their profit improved in Q1 2021.

12. Banks' capital buffers increased during the crisis

Per cent



Source: FI, EBA and the banks' annual reports.
Note: Capital buffers as a share of risk-weighted assets. The combined buffer requirements decreased in Q1 2020 after FI and other Nordic authorities lowered the countercyclical

[27] FI communicated this view already in December 2020. For more information, see: https://www.fi.se/en/published/press-releases/2020/financial-firms-must-be-restrictive-with-dividends-until-september-2021/

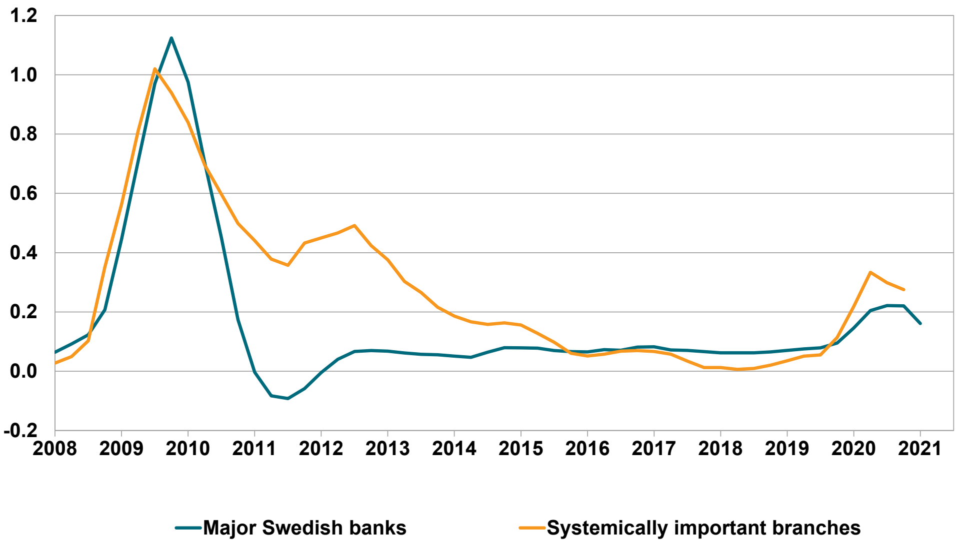
buffer rate. New rules were introduced at the beginning of 2021 that changed FI's application of the capital requirements. As a result, the buffer requirements increased at the end of 2020 at the same time as the Pillar 2 requirements (not shown) decreased.

Elevated credit risks in corporate lending

The banks' credit loss provisions increased during the crisis, but from low levels (Diagram 13). The provisions are primarily linked to corporate lending, including the transport sector, industry, and parts of the service sector. A relatively large portion also comes from the oil sector, which began to experience problems already before the pandemic. The realised credit losses have been limited so far, but for many firms the situation continues to be uncertain. The commercial sector received considerable support from the government, and it is unclear if the number of firms having difficulties making their payments will increase in the future, particularly when the government support measures are withdrawn.

The banks also hold large exposures to the commercial real estate sector, which represents between 10 and 25 per cent of each bank's lending to the general public. FI previously made the assessment that there are elevated risks associated with the banks' commercial real estate lending and therefore decided to introduce an additional capital requirement for these exposures. The additional capital requirement went into effect at the end of 2020. So far, real estate firms have managed the crisis relatively well, but their debt continued to increase during the pandemic and they are also dependent on rental income from other commercial sectors (see Non-financial corporations). If bankruptcies increase, the problems could spread to the commercial real estate sector, which in turn would impact the banks.

13. Credit loss reserves have increased, but from low levels
Per cent



Source: FI.
Note: Credit loss reserves at an annual rate as a share of total lending to the public. The negative credit loss reserves in 2011 are due to recovered provisions from previous years.

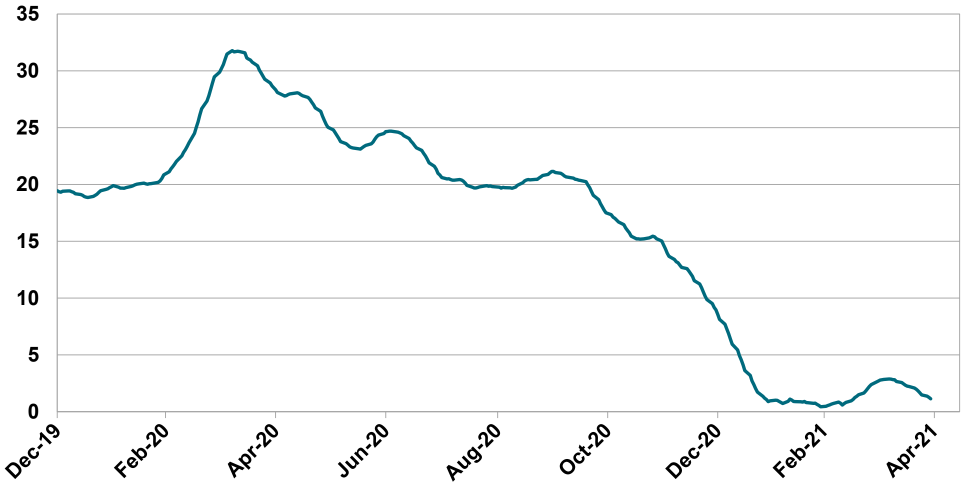
Favourable funding conditions

The banks have good access to funding on the credit markets at the same time as deposit volumes have increased. Since the start of 2020, the banks' liquidity buffers have also strengthened. They therefore have good margins that can be used if the situation were to deteriorate.

At the beginning of the crisis, market liquidity deteriorated on many markets, and the banks' funding costs increased, but the powerful response by the central banks in Q2 2020 helped improve the market conditions. Continued interventions benefit the major banks since they increase the liquidity in the financial system, thereby contributing to the downward pressure on the funding costs. Costs for wholesale funding have fallen significantly, and the risk premiums for covered bonds are significantly lower than before the crisis, which to a large extent is due to the Riksbank's purchases (Diagram 14).

During the pandemic, deposits from both households and firms increased rapidly in relation to the banks' lending, which at least temporarily has decreased the banks' need for wholesale funding. As households and firms return to more normal consumption and investment patters, deposits will most like decrease.

14. Pressure on risk premiums lowered banks' funding costs
Basis points



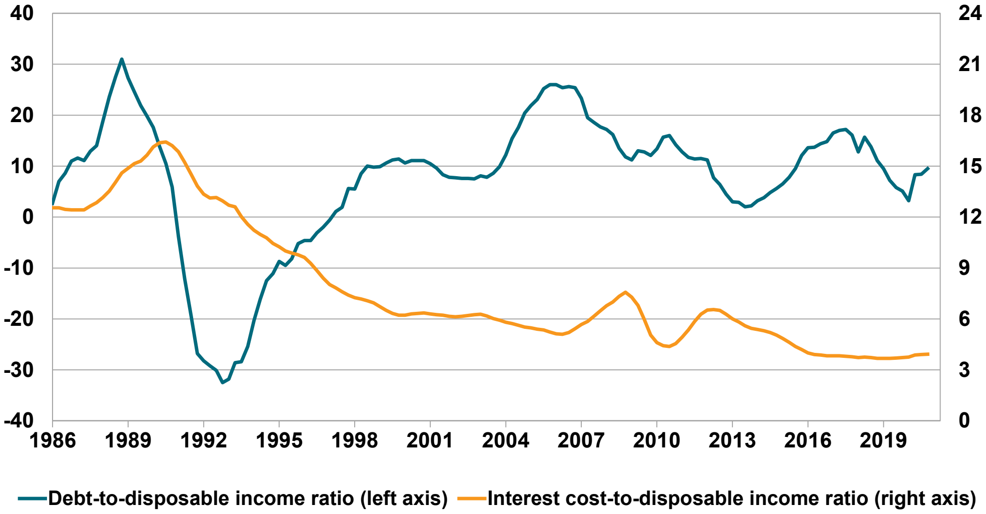
Source: Refinitiv Eikon.
Note: Credit spread (asset swap spread) for Swedish covered bonds with estimated fixed duration, 5 years effective maturity. Refers to one-month rolling average for the three major Swedish banks and Nordea.

Appendix of diagrams

Households

A1. The debt ratio and interest-to-income ratio of households

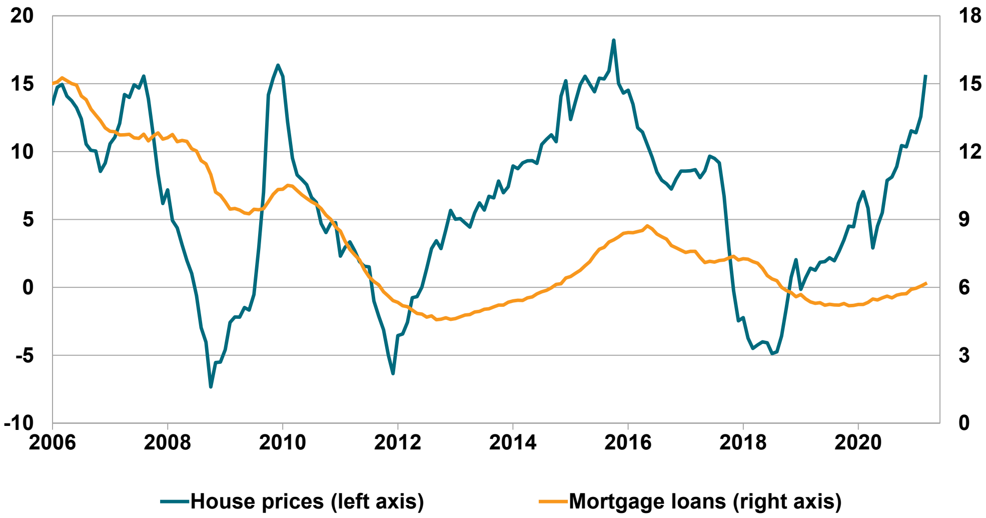
Percentage points (left axis) and per cent (right axis)



Source: Statistics Sweden.
Note: Refers to 3-year change in aggregate debt-to-income ratio (total interest-bearing loans in relation to aggregate disposable income) in percentage points and aggregate interest-to-income ratio (aggregate interest rate expenses in relation to aggregate disposable income) in per cent.

A2. Rapidly rising house prices lead to faster growth in mortgages

Annual percentage change

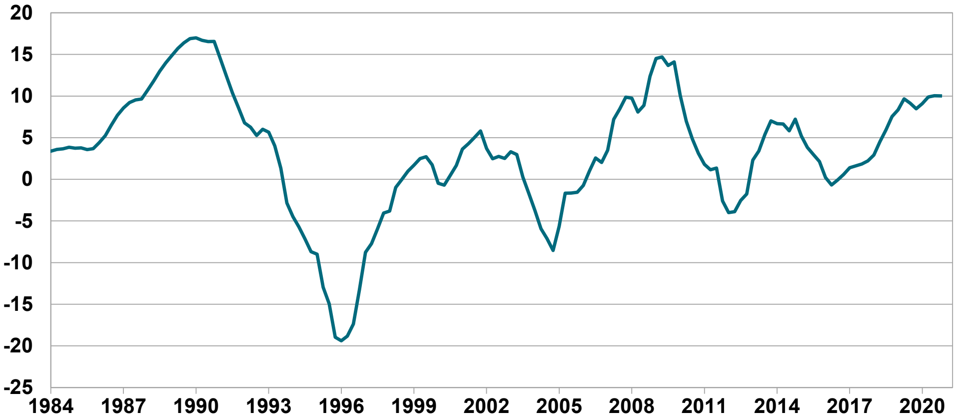


Source: Valueguard and SCB.
Note: Refers to total house prices in all of Sweden.

Non-financial corporations

A3. Debt of non-financial corporations grew faster than GDP

Percentage points

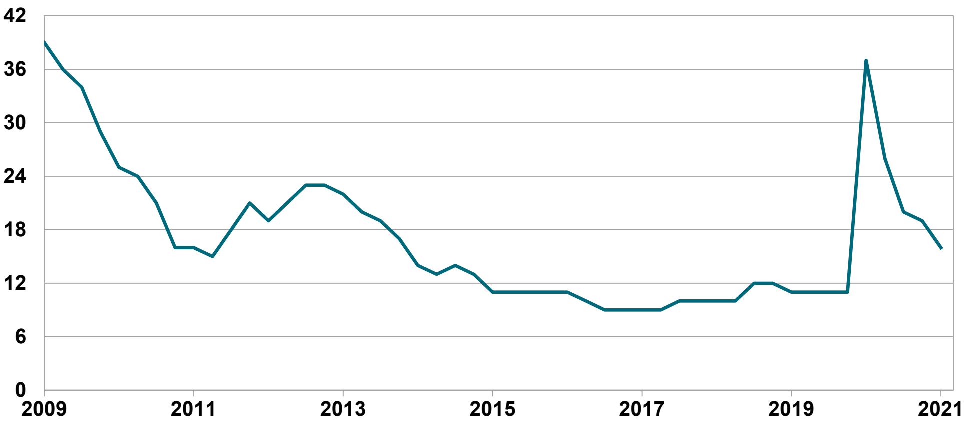


Source: Statistics Sweden.

Note: Refers to 3-year change in the ratio total debt of non-financial corporations (loans from monetary financial institutions and outstanding bonds and commercial paper) to GDP in percentage points.

A4. Fewer firms experience difficulties raising financing

Per cent

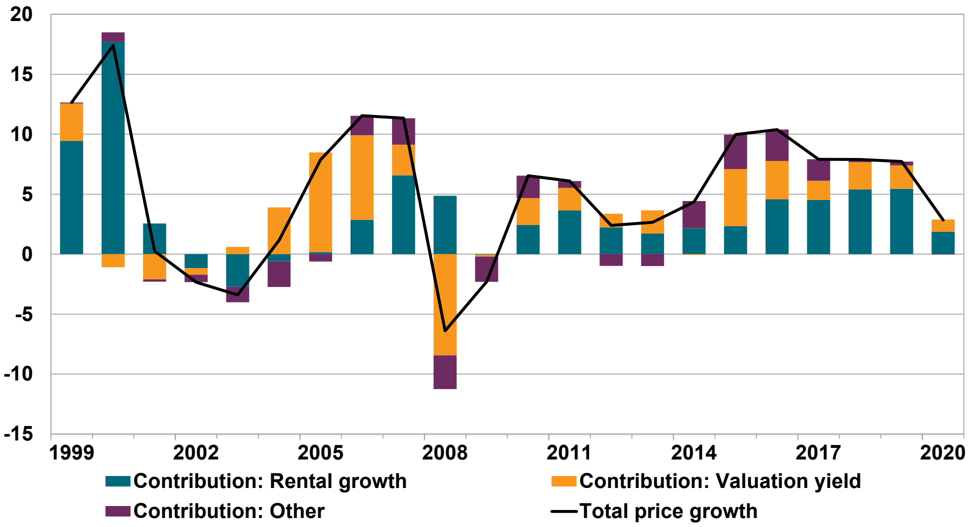


Source: NIER.

Note: Refers to share of firms that experiences financing difficulties, regardless of the reason.

A5. Slowed growth in commercial real estate prices

Per cent

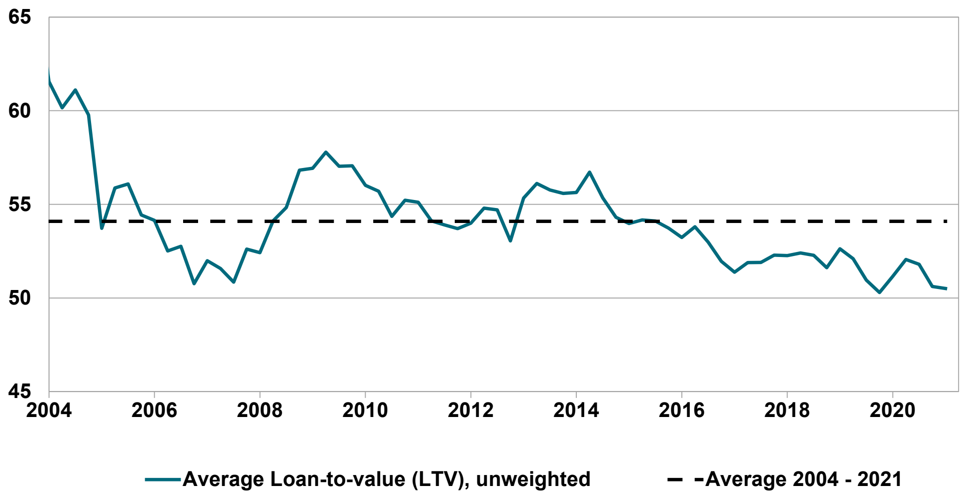


Source: FI and MSCI.

Note: Decompression of price trend for commercial real estate (all segments). The decompression is carried out using a regression model where price is a function of yield and rent.

A6. Loan-to-value ratios of real estate firms back down

Per cent



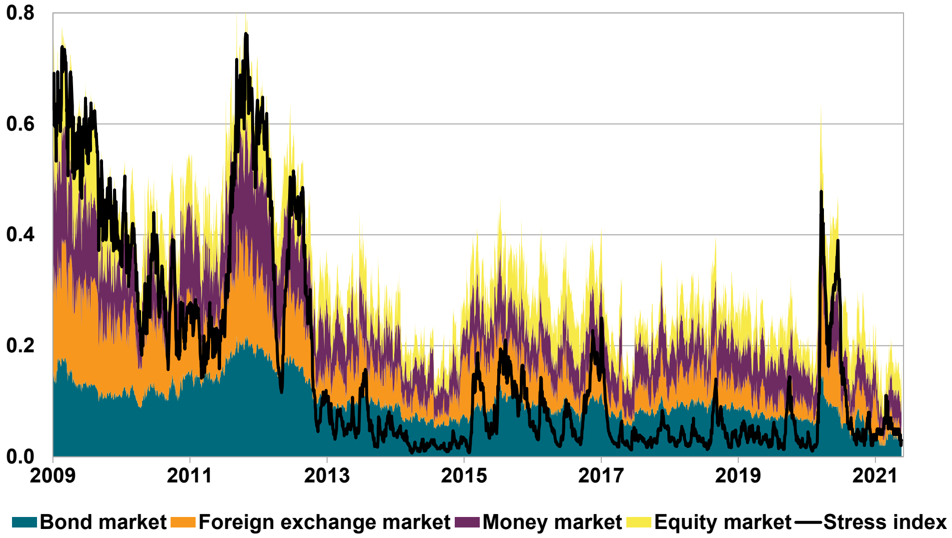
Source: Catella and FI.

Note: Refers to unweighted loan-to-value ratio, net (interest-bearing debt minus cash and cash equivalents) for listed real estate firms.

Stability in the financial markets

A7. Stress levels have fallen back

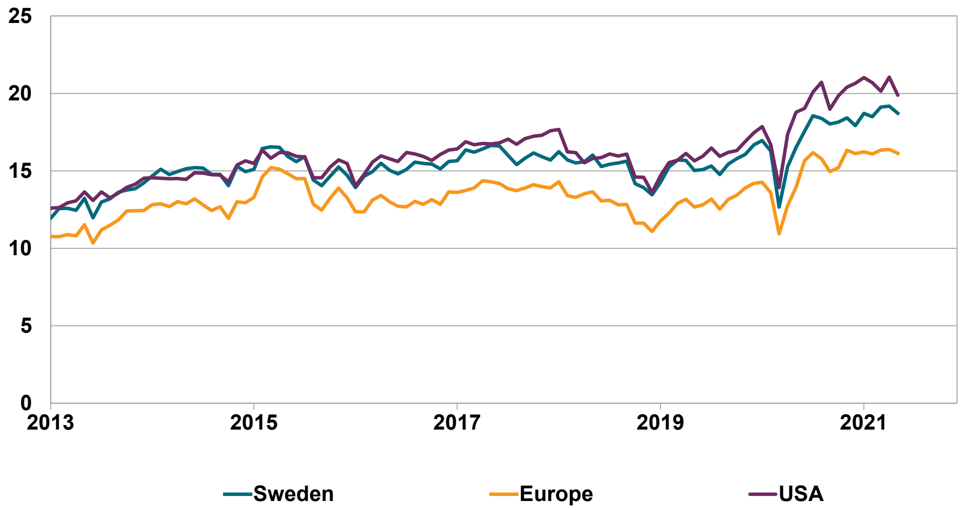
Ranking (0=low stress, 1=high stress)



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 2021/05/20.

A8. Historically high forward-looking P/E ratio

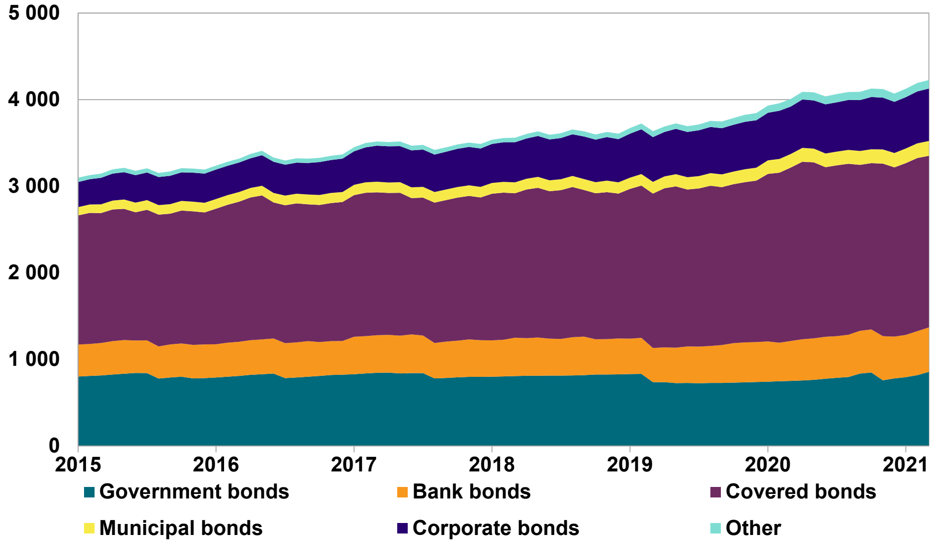
18-month forward-looking P/E ratio



Source: Refinitiv Datastream.
Note: P/E stands for price/earnings (share price/earnings per share). Forward-looking P/E ratio refers to earnings per share in relation to analysts' earnings forecasts per share for the

coming 18 months. Refers to companies on the Swedish, European and US markets. A historical average of forward-looking P/E ratios from 2012/05/27 to 2021/05/27. The historical average for Sweden is 15.1 per cent, for Europe 13.0 per cent, and for the USA 15.8 per cent.

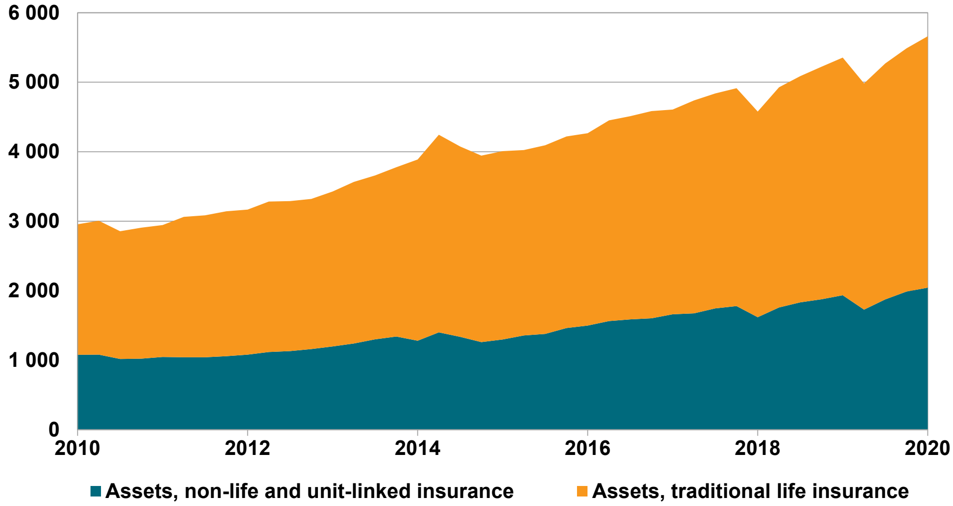
A9. Bond issues increase
SEK billion



Source: Statistics Sweden.
Note: Bonds issued in SEK. Outstanding nominal amount at month-end.

Stability in the insurance sector

A10. Insurance undertakings manage large amounts
SEK billion

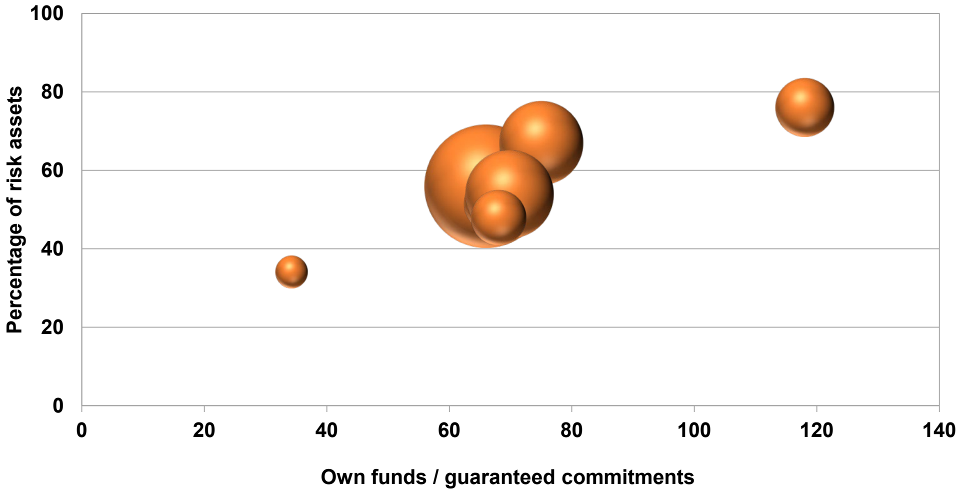


Source: Statistics Sweden.

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

A11. Higher risk-taking requires stronger financial position

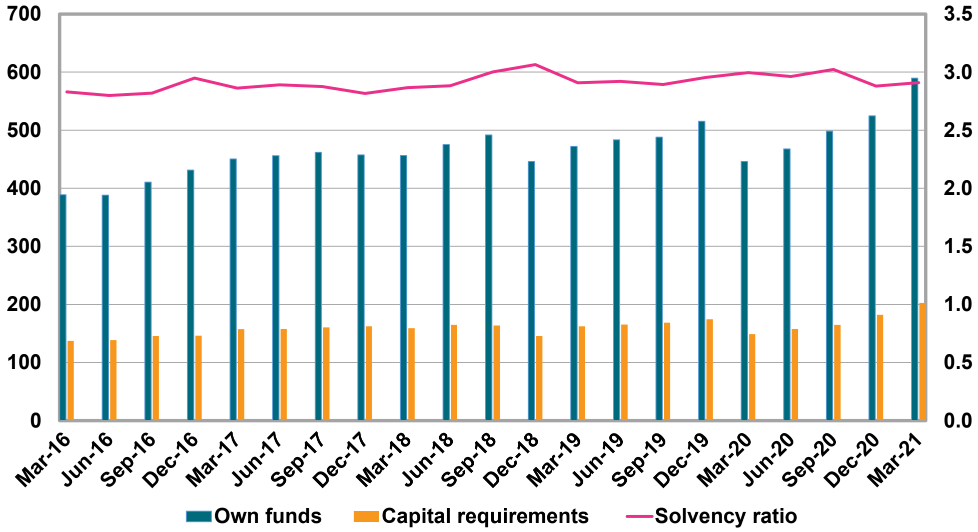
Per cent



Source: FI.
Note: The percentage of risk assets of life insurance undertakings' total investments (Y axis) and own funds in relation to guaranteed commitments (X axis). Risk assets are defined as all non-interest-bearing investments. The size of the bubbles corresponds to total assets in each firm. As per 31 December 2020.

A12. Solvency ratios still at good level

SEK billion (left axis) and ratio (right axis)

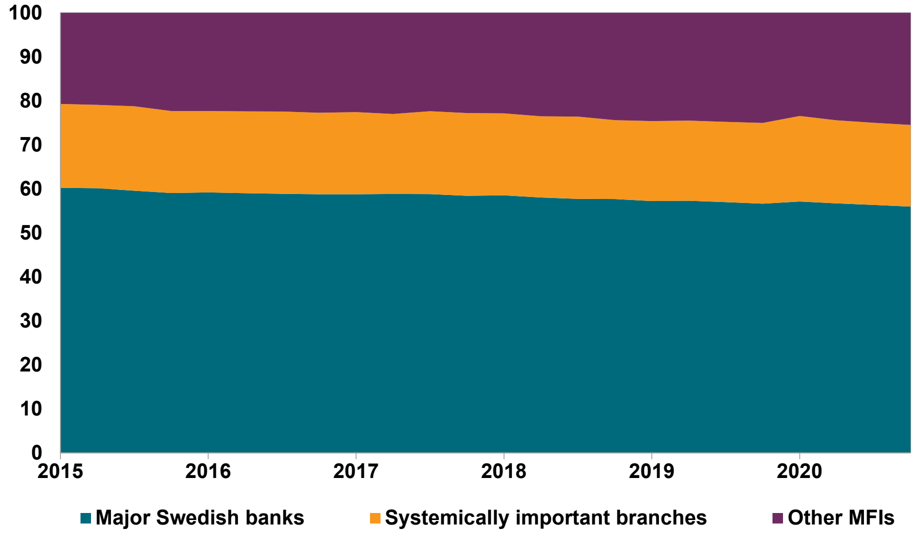


Source: FI.
Note: Own funds, capital requirements, and solvency ratio according to Solvency II reporting

Stability in the banking sector

A13. Major banks lose market shares but are still dominant

Per cent

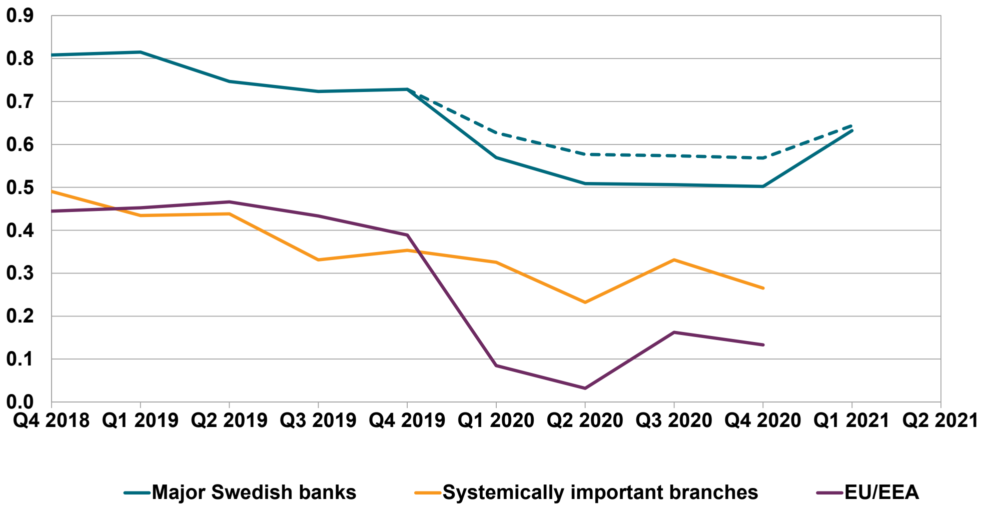


Source: FI.

Note: Refers to lending to Swedish households and corporates. “MFI” stands for monetary financial institution. The market shares of the major banks have decreased from 80 to 75 per cent since 2014.

A14. Relatively limited profitability drop in Nordic banks during crisis

Per cent

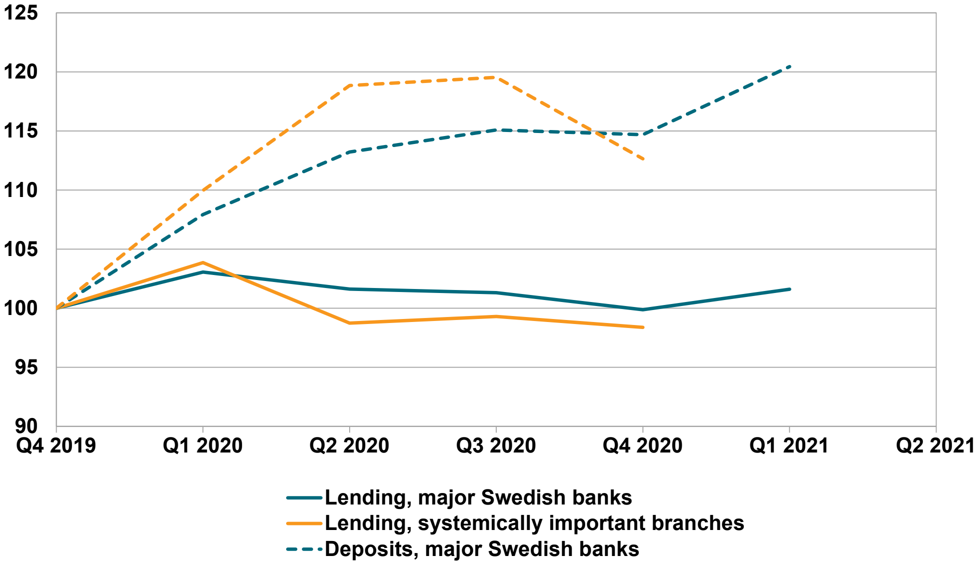


Source: FI and the EBA Risk Dashboard.

Note: Return at annual rate as share of total assets, four-quarter rolling mean. Dashed blue line does not include money laundering-related sanction fees in Swedbank and SEB in 2020.

A15. Deposits at banks increased rapidly in relation to lending

Index 100 = Q4 2019



Source: FI.

Note: Refers to deposits and lending from/to households and corporates, average for the three major Swedish banks and the systemically important branches, respectively.