REPORT

Stability in the Financial System

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Contents

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Stability assessment

Inflation fell globally in 2023 and is expected to drop further in 2024. At the same time, there is continued insecurity regarding what measures central banks will take and how the interest rate will develop. The outlook on global economic development continues to be weak due to high interest rates.

As a result of the higher interest rates, financial market actors and borrowers have needed to make adjustments, and Finansinspektionen (FI) is now seeing a drop in the willingness to take risks. Risks to stability can be detected early in an environment of higher interest rates. For example, at the beginning of 2023, a number of large international banks experienced significant problems, leading to defaults and fire sales. Though Swedish institutions have not been directly impacted, these events show that there is a level of uncertainty. More vulnerabilities may be exposed in both the global financial system and the Swedish financial system in the near future.

Commercial real estate (CRE) firms in Sweden are particularly vulnerable as they have high debt, are highly sensitive to changes in the interest rate and have a substantial need to regularly refinance their debt. It is therefore important for highly indebted CRE firms to reduce their debt and strengthen their equity to avoid the sector having to make more uncontrolled adjustments in the future. Households have also been impacted, and their economic margins have declined.

Swedish banks are currently very profitable but there is an increased risk of greater future credit losses in the bank system due to deteriorating conditions for companies and households. However, FI believes that Swedish banks are resilient to the potential challenges thanks to their liquidity and capital buffers.

Uncertainty in the geopolitical sphere continued to rise in the past six months and security in Sweden has deteriorated. Being that the financial system is digitalised, there is an increased risk of cyber attacks and other forms of sabotage. Attacks on sensitive system aspects can impact critical functions and, in the long run, throw financial stability into disorder. It is FI's assessment that financial actors will need to strengthen their digital resilience.

In summary, FI assesses that there is an elevated risk to financial stability. Higher interest rates result in smaller margins for many firms and households. If interest rates remain high for a long period of time, the burden will increase for more households and institutions. This development would also pose a greater risk of problems in the financial sector. Raising to higher interest rates also increases the risk of financial turbulence. At the same time, risk-taking and debt build-up have slowed in the current environment, resulting in less vulnerability in the longer term.

Decline in willingness to take on risk

With the interest rate increases and a weaker economic outlook, more actors are striving to decrease their risk-taking. These adjustments have resulted in higher risk premiums in both the stock and fixed-income markets, for example.

Risk premiums have primarily increased for sectors whose business models are sensitive to interest rate fluctuations or whose returns come at a far later date, such as the CRE sector and growth firms. For these sectors, share prices have dropped substantially and interest rate increments on bonds have risen significantly. The risk premiums for smaller corporations has risen more significantly than for larger as investors are increasing their focus on company-specific risk. If interest rates continue to rise or remain on the same high levels, this development can be strengthened and potentially lead to additional price corrections and market turbulence.

The fact that undertakings are less willing to take on risk is having an impact on their possibilities for financing via the equity and bond markets. There have been very few issues on the stock market in 2023 and costs have been high on the bond market, especially for CRE firms and firms with lower creditworthiness. The firms can therefore not fully replace maturing market financing. If this situation remains for a longer period, it will have growing consequences for profitability and liquidity.

Large debts growing at a slower rate

In 2023, the increase in corporate debt has been slowing and the build-up of household debt has halted entirely. However, the level of corporate and household debt remains high.

CRE firm debt has been increasing sharply for a long time, making these firms vulnerable to higher interest rates and creating a need to refinance large sums for maturing loans. The higher interest rates have decreased their profitability and resulted in the beginning of downward adjustments to real estate valuations. The current valuation of listed CRE firms indicates that the market is attributing a significantly lower value to real estate assets than those the firms themselves report. FI anticipates that reported values will continue to experience downward adjustments, especially in the case that interest rates remain high. Impaired profitability and lower property values in relation to debt means that the risk of exposures to CRE firms will increase for banks and other financiers in the sector.

Households are also sensitive to interest rate increases due to high debt and short interest rate adjustment periods. In 2023, household margins decreased as a result of higher interest rates and higher subsistence costs. The vulnerability of households' cash flows has therefore begun to be tested, even if most mortgagors continue to have satisfactory margins. High interest rates for a prolonged period would put further strain on households with limited margins. Weak price development on the equity and housing markets can also have a negative impact on households' assets. FI assesses that the primary risk associated with high household debt is a decrease in consumption, which can amplify a macroeconomic downturn.

The banks' credit loss provisions and realised credit losses are still low, but the deterioration in the conditions for firms and households means that the banks' provisions and credit losses are likely to increase. However, banks also have significant buffers and thus the resilience to take on even a sharp economic downturn. FI therefore makes the assessment that the banks can handle significant credit losses and continue to issue loans even if the market conditions were to decline significantly. To ensure this, it is crucial that the banks also continue to hold satisfactory capital buffers. FI previously decided that the countercyclical buffer rate will be raised to 2 per cent, a level that FI intends to leave unchanged. Though an additional raise would increase resilience, FI assesses that it is not justified considering the slowing of both debt build-up and risk-taking (also see in-depth review "FI aims to leave the countercyclical buffer rate unchanged in the fourth quarter.").

Maturity imbalances and poorly functioning bond markets can create problems

Liquidity on the government and covered bond markets has been low for a long period of time. FI makes the assessment that so far this has not impacted the state's or the banks' ability to raise funding, but these central and systemically important markets can be vulnerable to disruptions given the current market conditions.

Liquidity has also been weak on the market for corporate bonds. Poor liquidity on the secondary market leads to uncertainty in pricing and can make financing on the primary market more difficult. A lack of market liquidity also increases the liquidity risk in funds that are investing in corporate bonds. Currently, FI sees the greatest liquidity risks in funds with exposures to corporate bonds with lower credit ratings.

Reduced risk-taking has impacted the primary market for corporate bonds where issue volumes are still limited. This has particularly impacted CRE firms and firms with lower credit ratings. Due to unsatisfactory financing on the corporate bond market, FI assesses that the CRE firms' refinancing risk is currently very high.

Deposits are a key component for the banks' financing. During the pandemic, bank deposits increased sharply, and they are still at a high level. This has reduced banks' dependence on market funding. Access to market financing continues to be good, but the cost of it has continued to increase at pace with rising interest rates.

The economic development may result in both households and firms needing to reduce their deposits in the banks. Individual banks may also become subject to runs if confidence in the bank decreases, as we have seen in US and Swiss banks during the year. At the same time, Swedish banks have high profitability, proven business models and significant liquidity margins and are thus able to handle large withdrawals for a short period of time. To manage different types of events, it is crucial to safeguard these liquidity buffers (see also in-depth review “Deposit volatility”). Overall, FI makes the assessment that banks continue to have a good funding situation.

Concentration and interconnectivity increase vulnerability in the financial system

The financial system is concentrated and closely interlinked. The banks’ large exposures to the CRE sector are one such type of concentration. Other parts of the financial sector also have exposures to the CRE sector through equity shares and corporate bonds. Problems in the real estate sector could therefore quickly spread through large parts of the financial system. More restricted access to market financing increases pressure on the banking sector to provide financing. When banks need to increase their lending to corporate real estate firms, their concentration toward the sector further increases.

Concentration also occurs when financial instruments are cleared with a central counterparty to reduce counterparty risks. Risk management is concentrated to the central counterparties which become a very important part of the financial infrastructure. In 2022, margin calls increased sharply for members of central counterparties that cleared electricity market instruments. There has been a decrease in these requirements, primarily due to lower electricity prices. The 2022 development resulted in more actors going over to clearing contracts bilaterally outside central counterparties. An increase in the share of bilateral clearing can lead to deterioration of price-setting, reduced transparency and negative stability effects as bilaterally cleared contracts are not covered by the risk-mitigating tools and measures that trading with central counterparties entails.

The payment system is clearly interlinked in the banking sector. As the development of P27 Nordic Payments AB (P27) has tapered off, it is important that progress is made in the initiative that Bankgirot is now taking to modernise the Swedish payment infrastructure. FI is monitoring this development closely.

The concentration risk is exacerbated by the fact that financial corporations are increasingly purchasing critical operations from external suppliers. Some services are only provided by one or a few suppliers. This means that functions and expertise are concentrated to these actors who end up playing a crucial role in the sector as a whole. Concentration to a limited number of actors combined with existing interlinkage poses a risk of disruptions spreading in a way that can have serious consequences for the functioning of the financial system.

The interlinkage and high degree of digitalisation in the financial sector pose a risk for various disruptions. In addition, the services provided by the financial sector are often critical for society, making them a potential target for attacks. Cyber security matters are thus very important for financial stability and the entire economy. FI's view of cyber security in the Swedish financial sector is that many firms are working actively to build up resistance, but it is clear that some actors have come further in their work than others and that there is a considerable need for cooperation to increase resilience.

The macrofinancial situation

Following sharp tightening of the global monetary policy, inflation is now decreasing globally and in Sweden. Still, many central banks are communicating that the monetary policy needs to remain tight for extended period of time. Higher interest rates burden economic activity and reduce risk-taking on the financial markets. We have probably not yet seen the full effects of these events on the economic development.

	Vulnerability	Change
Risk-taking financial markets	Yellow	↘
Market liquidity	Red	→

The colors indicate the current level of vulnerability. Green represents low vulnerability. Yellow, orange and red indicate differing degrees of elevated vulnerability. The arrows show the trend for the vulnerability – increasing, decreasing, or unchanged. The level and trend are based on a combination of quantitative measurements and expert assessments.

Though inflation is dropping, interest rates are rising

During 2023, inflation in Sweden and larger economies has gone down considerably, dropping from extraordinarily high levels at the beginning of the year (Diagram 1). Current forecasts indicate that inflation in the euro area and the US are expected to reach the central bank target levels of 2 per cent in 2024. There is thus less insecurity about how inflation will develop.

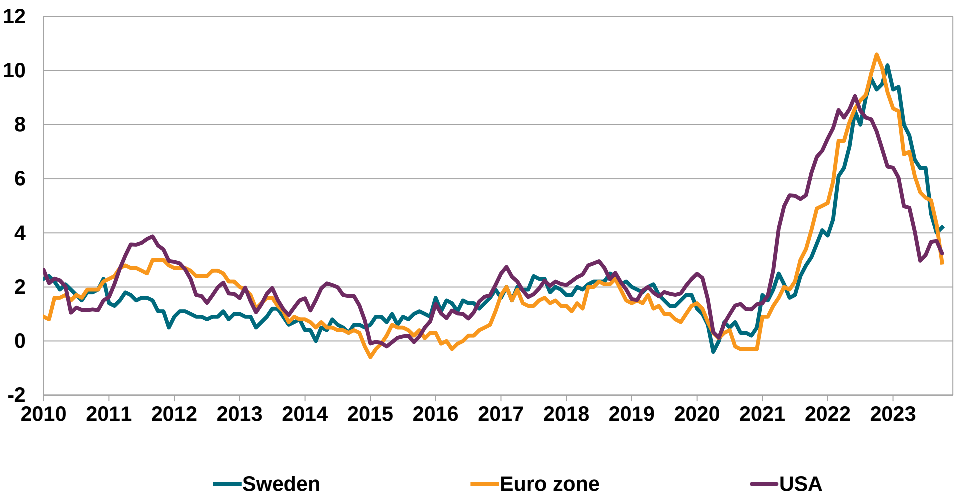
The cost of slowing global inflation has been a significant monetary policy tightening, resulting in rapidly rising interest rates. Though inflation has now dropped and is expected to slow further, there is still uncertainty regarding the monetary policies central banks will put in place in the future. It is not clear whether they will be able to loosen monetary policies when inflation reaches the target level. Most recently, the central banks have communicated that the policy rates may need to remain on current levels for a longer period to ensure that inflation remains on the target level. This would also mean that interest rates would remain high for an extended period. During the second half of 2023, the global long-term market rates have risen. This can be interpreted to mean that the market has set a higher probability that the high interest rates will remain for a longer period than earlier anticipated (Diagram 2).

Higher interest rates burden the global economy, which is expected to grow at a slower rate during 2023 and 2024. After a long period of expansive financial conditions, households, firms and market actors are now in the process of adapting to the new conditions caused by the higher interest rates. High financing costs, a more conservative view on risk-taking among investors, and cautious economic demand entail that the probability of disruptions is still at a heightened level. It can pertain to a disruption that affects an entire sector, such as Chinese real estate, or is isolated to individual actors, such as the distress we saw on the international banking market at the beginning of 2023. A serious disruption can appear suddenly and rapidly have consequences for the real economy if it cannot be managed, for instance, if confidence in the credit markets were to decline. Serious disruption can also lead to turbulence in financial markets and negatively impact their function.

In summary, the outlook for global economic development in the near future depends on how long the tightening of monetary policy needs to continue and at what rate it can later be eased. If high interest rates were to continue for a long period of time, the economic decline would probably not only deepen, but also be more drawn out. This type of development would also increase the strain on households, firms and market actors.

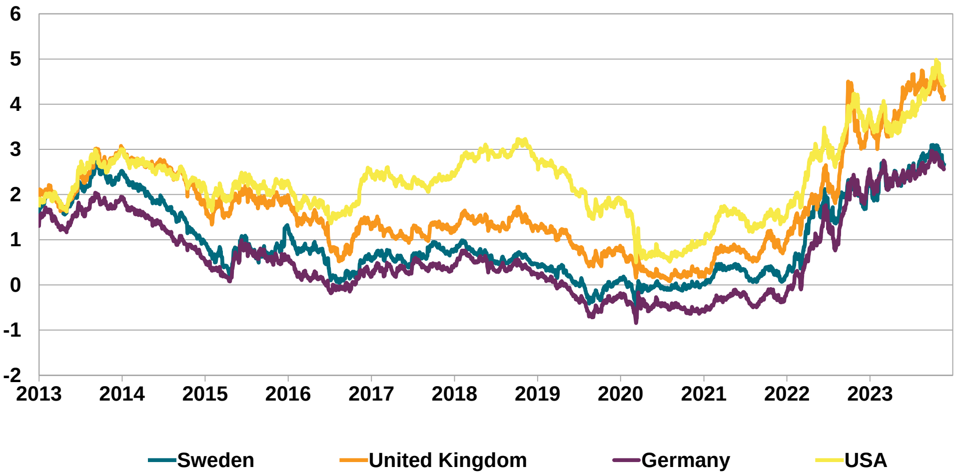
1. Inflation drops from an extraordinarily high level

Per cent



Sources: Refinitiv and Statistics Sweden.
Note: Refers to CPIF (Sweden), HICP (Euro zone) and CPI (USA), annual change.

2. Global government bond yields have risen to high levels
Per cent



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

Swedish economy contracts in 2023

The Swedish GDP is expected to decrease in 2023 to then grow at a moderate pace in 2024.[1] Households are the primary driver behind the drop in demand in the economy. Household buying power has declined due to the general rise in prices and the rapid, sharp rise in interest rate costs for leveraged households. According to survey data, households consider the economic situation to still be very weak, though the bottom seems to have passed.[2] Demand for labour has remained at relatively high levels so far. If the economic downturn leads to a substantial increase in unemployment, this could create an additional strain for households.

Households under pressure, higher interest rates and falling housing prices are contributing to a significant decrease in construction investments, which also contributes to slowing economic growth. The rate of construction, primarily of housing, is expected to decrease sharply in 2023 and beyond, both for residential units that are sold to households and units managed as rentals. Housing prices have plummeted almost 15 per cent since the peak in March 2022.[3] The number of residential properties for sale was high during the second half of 2023, but the number of sold residential properties was relatively low. Significantly increased housing expenses and other living expenses for households indicate that housing prices will continue to decrease in the short term.

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[1] According to NIER (September 2023), the Swedish GDP is expected to drop by 0.6 per cent in 2023 and increase by 1.0 per cent in 2024.
[2] NIER, Economic Tendency Survey.
[3] According to the Valueguard index, Sweden.

Demand continues to be good in the export industry, and production in the sector is expected to increase in 2023 and 2024. The competitive advantage of this sector has been boosted by the depreciation of the Swedish krona against larger currencies. At the same time, a weak and volatile currency can have a negative impact on firms' opportunities to manage currency risk and attract foreign financing.

The public finances in Sweden continue to be very strong, but fiscal policy is still not expected to support the economy to any significant extent in the near future. Fiscal policy is largely tied to high inflation, and there is a risk that pursuing a more expansive policy at this time would counteract the aim of the tighter monetary policy to slow inflation.

Higher interest rates divide risk-taking and opportunities for financing

The rapid rise in the interest rate to higher levels has caused a shift in financial stress and elevated risk premiums to a higher level. Despite interest rates continuing to rise since the last stability report, financial stress and risk premiums of covered and corporate bonds have decreased. The development in broad equity indices has also shown resilience during the spring and summer. In recent months, long-term interest rates have risen sharply, which has had a negative impact on stock market growth.

Behind the overall picture of a relatively high risk-willingness, fragmented financial conditions are hiding. For example, developments on the stock exchanges show that large corporations have supported broader equity indices whereas smaller firms have dropped in market value. The development of the OMX 30, which measures development of the 30 largest listed firms, has remained on about the same level throughout the year, whereas the OMX small cap index[4] dropped sharply during the year.[5]

In addition, interest rate differentials for corporate bonds show fragmented development on the capital market. The real estate sector's risk premiums, for example, have increased compared to other sectors. It has generally become more difficult and more expensive for firms to raise financing on the capital market. For firms with weaker financial positions, the conditions have markedly deteriorated.

This has resulted in a decline in non-financial corporations' net issues of interest-bearing securities for the first time since starting to collect data in 2013. This shows that the firms have not fully refinanced their market-based financing on the capital market in this environment (Diagram 3). It is primarily the real estate sector

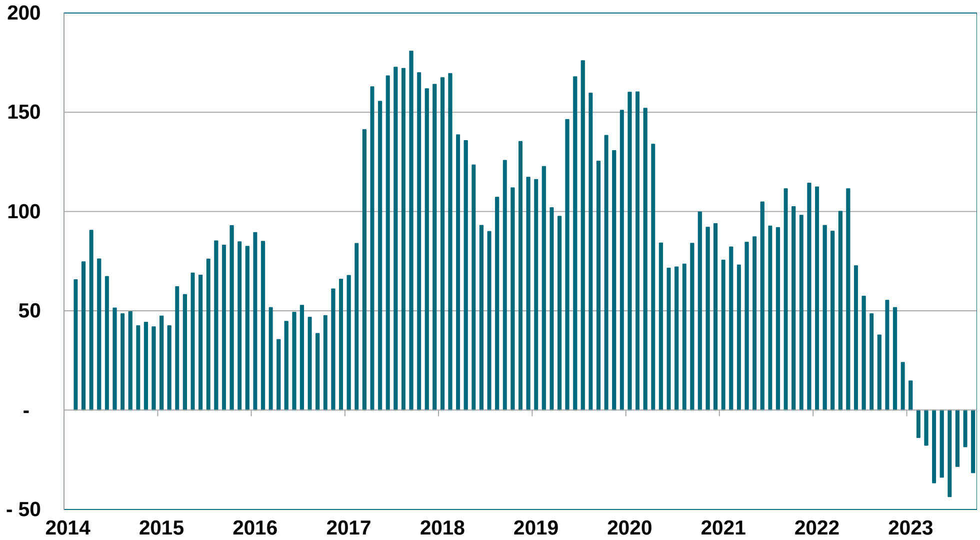
[4] Includes the 20 per cent of firms on Nasdaq OMX with the lowest market value.
[5] See Figure B1 in the Diagram Appendix.

that has reduced its market-based financing while other sectors, such as manufacturing, continue to increase their volume of outstanding interest-bearing securities. The total outstanding nominal securities issue has thereby stabilised at just over SEK 1,600 billion after having grown by an average of SEK 100 billion annually since 2013.

The fragmented financing conditions indicate a decline in risk taking. Company-specific risk has begun to be priced to a higher degree on the financial markets. This is basically a positive development, but it can have negative consequences as many investors invested in risk-filled, illiquid assets during times of low interest rates. These assets now risk decreasing in value as the financing conditions have tightened for some of the firms.

3. Non-financial corporations have not fully refinanced their market-based debt this year

SEK billion



Source: Statistics Sweden.

Note: Refers to a 12-month rolling sum of non-financial corporations' net interest-bearing securities issues.

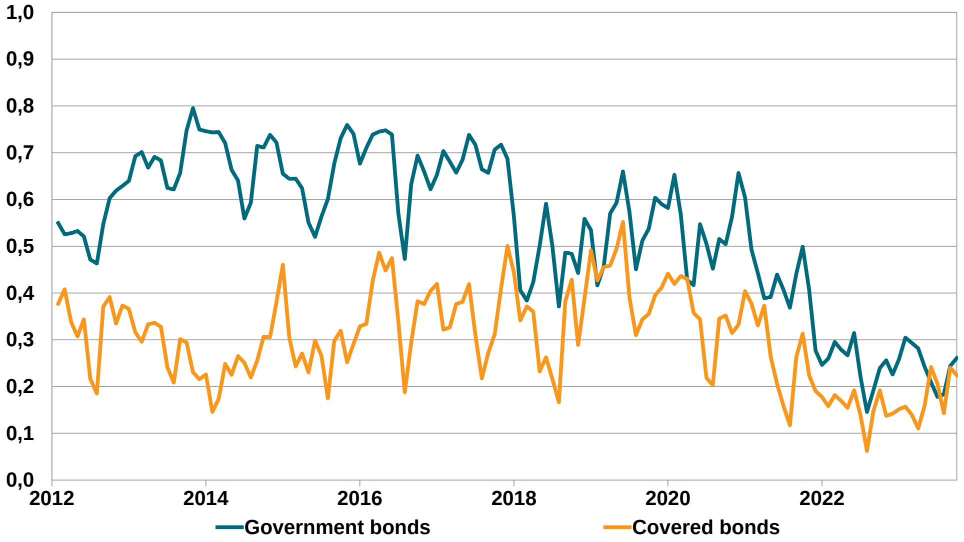
Market liquidity continues to be low

On the secondary market for bonds, liquidity continues to be strained and has stabilised at low levels compared to the most recent decade (Diagram 4). Low market liquidity can have a negative impact on the market's functionality in stressed scenarios. One explanation to the low market liquidity is that the amount of bonds available for trade has been low for an extended period. Another contributing factor could be that the environment of exceptionally low interest rates led to decreased interest from investors who want sufficient returns.

The higher interest rates make interest-bearing securities more attractive than they used to be, which has a positive impact on market liquidity through increased trade. The supply of government bonds on the secondary market is expected to increase over time as a result of the expectation that the Swedish National Debt Office will issue more government bonds during coming years and that the Riksbank is in the process of selling-off its holdings of government bonds. In recent months, a certain improvement in liquidity was noticeable, but it may be a long time before market liquidity recovers to earlier levels.

4. Liquidity on the bond market continues to be low

Normalised scale



Sources: FI’s transaction reporting system, Refinitiv, Swedish National Debt Office and Svenska Handelsbanken Bond Indices.
Note: Liquidity measure as an aggregate of various individual indicators for covered bonds and nominal government bonds with benchmark status. Higher values signify higher liquidity. The diagrams show the two months’ moving average of the index.

Households

Higher interest rates quickly impact households with large debt and short fixed-interest periods. They borrow less and place a larger portion of their income on interest payments. Still, households continue to consume and save more than previously predicted. Unemployment has not increased much yet either. Banks continue to grant a high amount of amortisation exemptions, although the volume has stabilised. Households are sensitive to further disruptions in the economy such as higher unemployment, interest rate hikes or higher energy prices.

	Vulnerability	Change
Debt growth	(yellow)	↘
Financial position	(yellow)	→
Cashflow	(orange)	→

The colors indicate the current level of vulnerability. Green represents low vulnerability. Yellow, orange and red indicate differing degrees of elevated vulnerability. The arrows show the trend for the vulnerability – increasing, decreasing, or unchanged. The level and trend are based on a combination of quantitative measurements and expert assessments.

Households borrow less

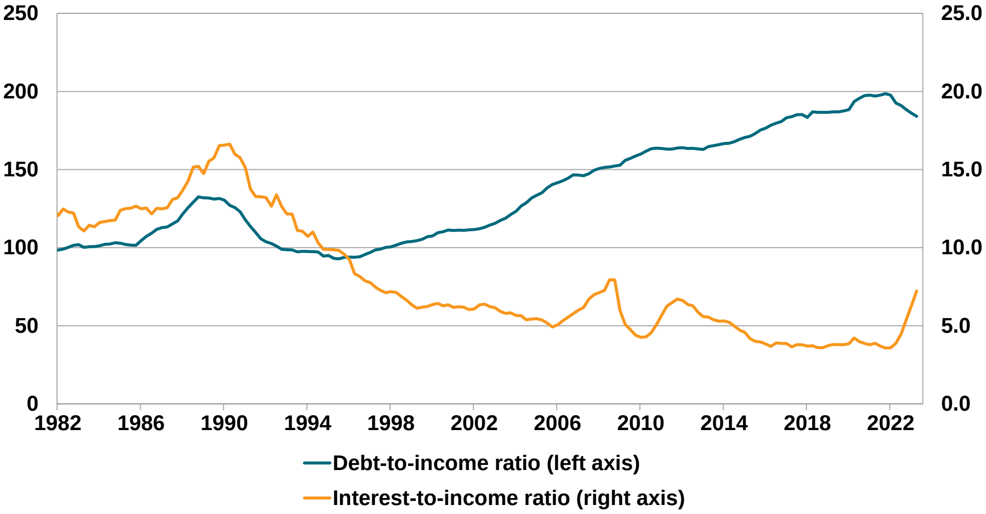
Households continue to borrow less, and their loans grew by only 0.7 per cent annually in September. Debt in relation to disposable income has fallen since Q2 2022 (Diagram 5). The debt level, however, continues to be higher than before the pandemic and is high from a historical and international perspective.

The rapid price increases resulted in a strong increase in nominal household consumption during the past year. But in real terms, consumption has just about dropped back to the same levels as before the pandemic. Though household consumption is weak, it has decreased less than expected considering price and interest rate increases. Following a small recovery in the summer, households' real consumption expenses dropped by 0.5 per cent in September compared to the same month last year.

One possible explanation that consumption has not dropped as much as predicted by forecasters is that employment so far has withstood the economic downturn relatively well. Unemployment numbers increased somewhat during Q3 this year compared to Q3 2022. In October, unemployment increased to 7.4 per cent, which is an increase of 0.3 percentage points from the year before. Forecasters predict unemployment will continue to increase as the recession deepens.

5. Households place more of their income on interest payments

Per cent



Source: Statistics Sweden.

Note: Debt-to-income ratio is current debt divided by the past four quarters' aggregate disposable income. Interest-to-income ratio is interest expense (before tax) divided by disposable income. Data up to and including Q2 2023.

Savings at a historic high

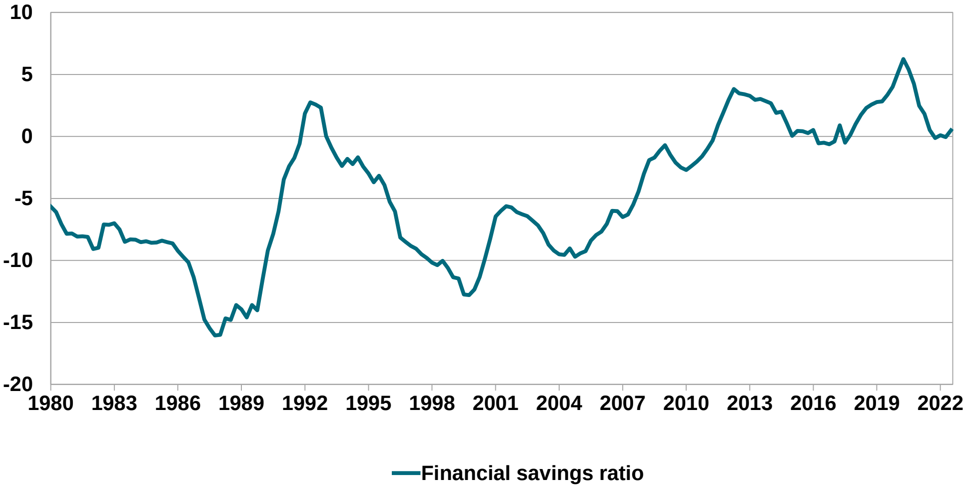
Activity on the housing market continues to be low and housing prices have gone from falling at the end of last year to stabilising this year. Since the beginning of the year, the percentage of homeowners concerned about falling housing prices has decreased. Currently, only 24 per cent of homeowners are concerned that the value of their home will drop compared to closer to 40 per cent at the beginning of the year.[6] FI's assessment is that housing prices could continue to fall. Many homeowners benefitted from the sharp upswing in housing prices in the last 20 years, which increases their resilience to a potential price drop.

During the pandemic, households placed a record-high portion of their disposable income on savings (Diagram 6). When society reopened after the pandemic, this portion decreased. Savings now remain on a high level from a historical perspective, despite households facing higher costs.

[6] Sifo conducted the survey on behalf of Länsförsäkringar Fastighetsförmedling. The most recent survey was conducted in September 2023. https://www.lansfast.se/om-oss/press/pressmeddelanden/pressmeddelande/ny-sifoundersokning-visar-kraftigt-minskad-oro-for-sjunkande-bostadspriser-3379521/

6. Households' financial savings ratio levels out

Per cent

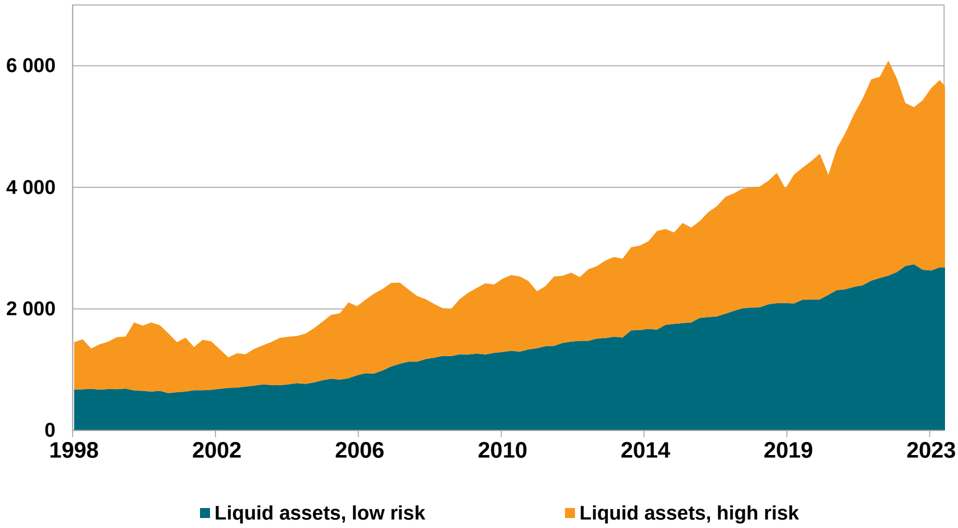


Source: Statistics Sweden.
Note: Flow. The diagram shows the share of the disposable income that goes to savings. Excluding savings in occupational and premium pensions. Data up to and including Q2 2023.

Households' liquid wealth is also high from a historical perspective (Diagram 7). The proportion of risk-filled assets decreased somewhat during the third quarter of this year. This is most likely due to the stock market drop following the upswing during quarter before. Households' savings in bank accounts have levelled out, despite higher deposit rates.

The fact that the households' ratios of financial savings and liquid wealth are high from a historical perspective indicates that they have a certain buffer for handling higher interest costs. However, households' assets are unevenly distributed. Leveraged households without a buffer are still sensitive to rising interest rates and loss of income. If households' expenses increase further, savings may decline in the future. Because households also have a large portion of their savings in risky assets on the stock market, this liquid wealth is sensitive to drops in financial asset prices.

7. Liquid wealth remains high
SEK billion



Sources: NIER and Statistics Sweden.
Note: Bills, coins and deposits are classified as low risk. Swedish listed shares, foreign shares and fund units (excl. bond funds) are classified as high risk. Data up to and including Q3 2023.

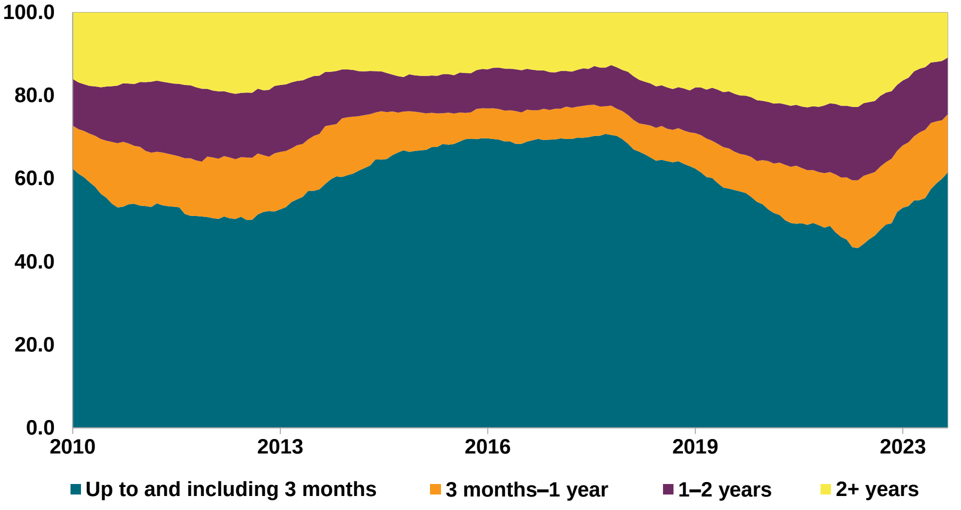
Households place more of their income on interest payments

Household debt has increased rapidly over a long period. This, in combination with households having short fixed-interest periods, causes households to be rapidly and significantly impacted by rising interest rates. The average mortgage rate has increased by over three percentage points since 2021. Of households' total mortgage volume, 61 per cent have an outstanding fixed-interest period of under three months (Diagram 8). This proportion has increased sharply since the central bank started raising the policy rate in the spring of 2022. In light of the last 10 years' historically low interest rates, current fixed-interest rate levels are likely not attractive to households. The high proportion of short fixed-interest periods also indicates that households do not anticipate further sharp rises in the interest rates.

Households are now spending an increasingly large portion of their disposable income on interest payments, while other costs of living are rising sharply as a result of inflation. The ratio of interest payments to disposable income is expected to rise further as more loans are renegotiated to the new interest rate levels. In a European context, Sweden stands out with its short fixed-interest periods, and the higher interest rates have impacted Swedish households faster than households in comparable European countries (Diagram 9).

8. Many mortgages have short fixed-interest periods

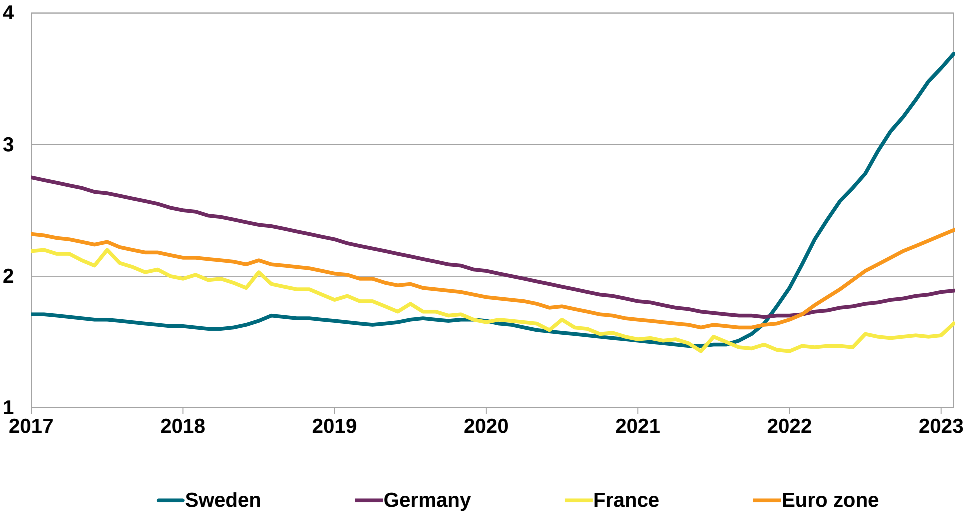
Per cent



Source: Statistics Sweden.
Note: Shows the proportion of mortgages with a certain outstanding fixed-interest period. Data until 30 September 2023.

9. Higher interest rates quickly impact Swedish households

Per cent



Source: ECB.
Note: Monthly. Average interest on outstanding loans. Data until 30 September 2023.

Last year, households' real disposable income[7] decreased as a result of inflation. Now, disposable income is rising. Households' nominal disposable income is still

[7] Real disposable income is defined as household income minus taxes and fees adjusted for inflation.

historically high and on the same level as in 2021. Although real salaries have decreased, the reduction in households' real disposable income on the whole is not as great as expected. One reason is that many fiscal transfers, such as sickness benefit, parental benefit and guarantee pension, are connected to the price base amount and therefore adjusted for inflation.[8]

While households still have good margins, it may become more difficult for some borrowers to meet their regular expenses loan payments due to the development in interest rates. This applies in particular to single-person households that took on a new mortgage when the housing prices were historically high. FI estimates that most households will be able to make their loan payments, but if the weak state of the economy leads to higher unemployment, those who lose their jobs will be significantly impacted.

It is possible for mortgage providers to grant temporary exemptions from the amortisation requirement to households that are facing significantly altered financial conditions. Mortgage providers can choose to grant such amortisation exemptions following an individual assessment of the specific lender's personal finances.

In-depth Analysis – Stabilisation in the number of granted amortisation exemptions

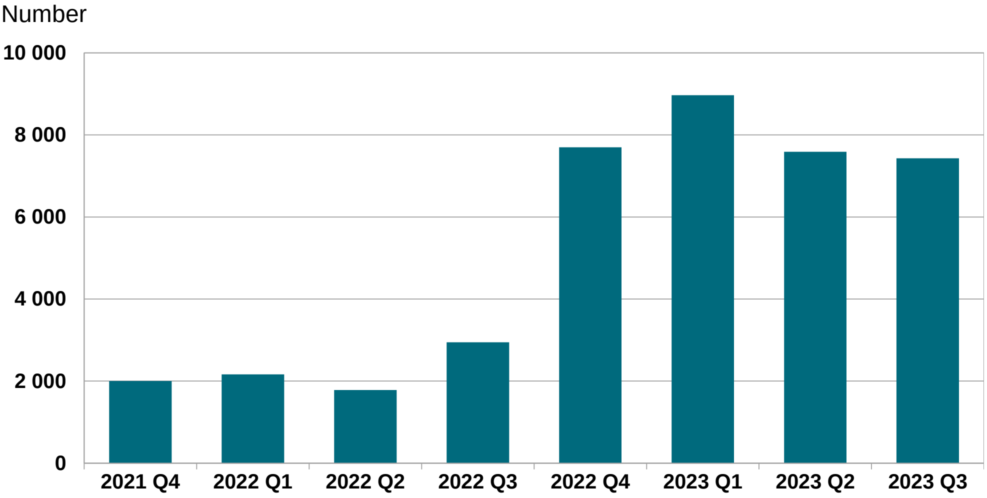
Between January 2022 and September 2023, banks granted 38,500 exemptions due to special grounds.[9] The number of granted exemptions peaked during Q1 2023 after a gradual increase starting in September 2022. During 2023, the number of exemptions granted has decreased somewhat and during the second and third quarters of 2023, fluctuated around the same level (Diagram B1).

Exemptions are more prevalent with certain types of borrowers.[10] We compare the distribution of granted exemptions during the last quarter of 2022 and the first quarter of 2023 (period 1) with the second and third quarters of 2023 (period 2) to see whether there has been any change with time to the groups that are granted

[8] For more information, see KI's in-depth review "Inflationens påverkan på den offentliga sektorns inkomster och utgifter" [Impact of inflation on public sector revenue and expenditure] in Konjunkturläget (The Swedish economy) December 2022. https://www.konj.se/download/18.1d35c93d1852997ae32124a3/1671545397806/Inflationens%20p%C3%A5verkan%20.pdf
[9] This is based on the eight mortgage institutions included in FI's mortgage survey. For more information, see report Banks' administration of amortisation requirement exemptions, June 2023, FI. We do not have information about which of these exemptions are new and which are extensions of previous applications. Some of the exemptions granted in 2023 can reasonably be expected to be extensions, given that some banks chose to grant exemptions for shorter time periods.
[10] Ibid.

exemptions.[11] In general, both time periods look about the same. During both periods, borrowers in the 31–40 age group were overrepresented in the groups that were granted amortisation exemption. During period 2, more than half of those granted exemptions were in this age group. It is still most common that borrowers are granted an exemption of less than one year. Just as in period 1, over three-fourths of the granted exemptions lasted four to twelve months.

B1. The number of granted exemptions remains about the same



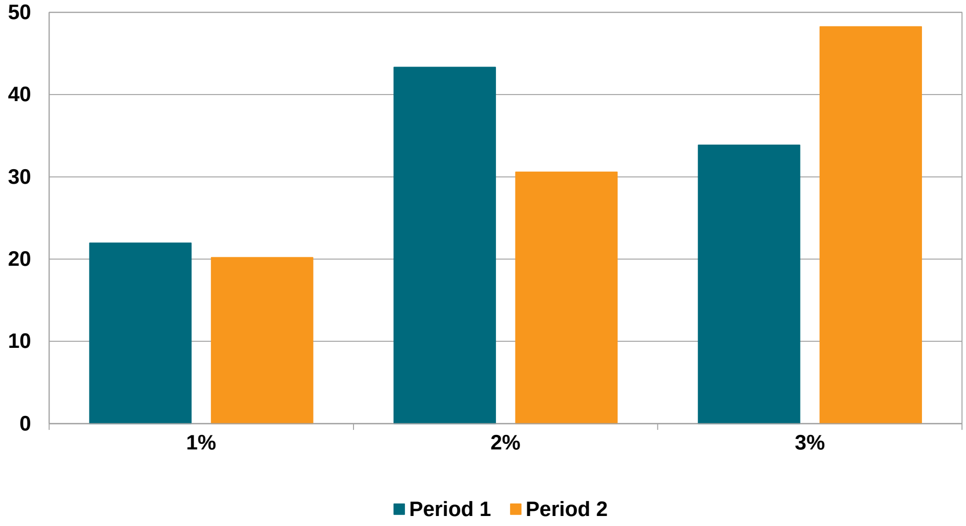
Source: FI.
Note: Number of granted exemptions from the amortisation requirements for special grounds, per quarter.

But there have been certain changes. Borrowers with high debt ratios and loan-to-value ratios (that is, those who make 2 or 3 per cent amortisation payments on their mortgage per year) have been granted exemptions to a greater degree in both periods (Diagram B2). Close to every other borrower that is granted an exemption in period 2 is required to amortise 3 per cent according to the amortisation requirements. This is an increase from period 1 where about every third borrower who received an exemption was part of this group. In the 2022 sample, the median mortgage amortisation payment was barely SEK 7,500 per month for borrowers who amortise 3 per cent of their mortgage per year. Being granted an amortisation exemption can thus give significant relief to the borrowers who are experiencing financial troubles.[12]

[11] For a comparison of the distribution of banks' new lending, see ibid. New lending refers to sample data for the period 2016–2022 for borrowers covered by the amortisation requirements. For more information, see report The Swedish Mortgage Market, March 2023, FI.
[12] The size of the amortisation exemption can vary. The amount can be interpreted as a raised limit as it is the median for the borrowers who amortise 3 per cent per year.

B2. A shift toward borrowers with higher amortisation rates

Per cent



Source: FI.

Note: Period 1 refers to Q4 2022 and Q1 2023. Period 2 refers to Q2 and Q3 2023. The bars show the proportion of borrowers with exemptions in periods 1 and 2 that amortise 1, 2 or 3 per cent.

All in all, we see that the number of granted exemptions has remained on the same high level as before they started to rise in September 2022. Still, the trend shows stabilisation in the last two quarters. This indicates that the change in the economy in the past year, with high inflation and rising interest rates, has caused many borrowers to be in financial trouble compared to the previous years of low interest rates. Given these circumstances, it continues to be important to use the flexibility in the regulatory framework and that banks grant exemptions from the amortisation requirements when justified.

Last year and in the beginning of this year, primarily those living in single-family homes were hit hard by the higher electricity prices. Now, households living in tenant-owned units are affected due to higher association fees. This applies in particular to associations with large debt. About one-third of tenant-owned associations raised their fees in the first six months. The average increase was about 12 per cent. Last year, only 10 per cent of tenant-owned associations raised their fees, and then, only 5 per cent on average.[13] It is clear that increasing numbers of tenant-owned associations are raising their fees when under financial pressure. In many cases, it is when their loans have matured and are renegotiated, resulting in increased costs for the associations. We will most likely see more raised fees as more loans mature and are renegotiated at a higher interest rate. Associations that

[13] Figures from Nabo (property manager). Published on 29 September 2023. https://nabo.se/pressrum/#/pressreleases/tre-gaanger-fler-avgiftshoejningar-bland-bostadsraettsfoereningar-3276502

must increase their fees substantially could experience a sharp drop in the value of their tenant-owned units.

Clearly, the higher interest rates are impacting households. They are borrowing less and putting more of their income towards interest payments. At the same time, households are still consuming and saving more than previously predicted. According to the National Institute of Economic Research, households have a pessimistic view on their finances, with many households reporting that their finances have deteriorated somewhat during the past year. However, households do not seem as pessimistic now as at the end of last year or the beginning of this year. Fewer households believe that the housing prices will drop further. The number of amortisation exemptions granted has also stabilised but remains on a high level. Households are also now choosing variable interest on their mortgages to a greater degree than previous years.

Overall, this indicates that households are somewhat more optimistic than during the cost shock of last year when higher electricity prices and interest rates hit simultaneously. FI assesses that households are still somewhat resilient to higher interest rates and dropping asset prices. This is in part due to record-high savings during the pandemic and in part a result of disposable income not dropping as much as anticipated. Unemployment has not increased much either, yet. On the other hand, interest rates have hit hard and quickly and are expected to have a further impact going forward due to households’ short fixed-interest periods. This makes households sensitive to additional disruptions in the economy, such as if the unemployment rate were to rise or if there were a new upswing in electricity and fuel prices. It is possible that households have not yet taken the new interest rates into full consideration. Against the backdrop of a decade with very low interest rates, it is possible that households view the hike in interest rates as temporary and believe rates will drop again in the near future. It is likely that households will make further adjustments to their consumption and savings in the future, especially if the interest rates remain high for an extended period of time.

Non-financial corporations

Growth in lending to non-financial corporations has decreased and is now growing slower than the historical average. Bankruptcies are increasing but have not led to larger credit losses for banks so far. CRE firms are highly leveraged and pressured by higher interest rates. For these firms, the growth in rental incomes have so far been strong but will likely slow down going forward. Property values are also expected to drop further. CRE firms' demand for bank loans is decreasing. This is partly an attempt to improve their key figures and partly because they are investing less during the recession.

	Vulnerability	Change
Debt growth	Yellow	↘
Indebtedness	Orange	→
Financing	Red	→

The colors indicate the current level of vulnerability. Green represents low vulnerability. Yellow, orange and red indicate differing degrees of elevated vulnerability. The arrows show the trend for the vulnerability – increasing, decreasing, or unchanged. The level and trend are based on a combination of quantitative measurements and expert assessments.

Firms borrow less

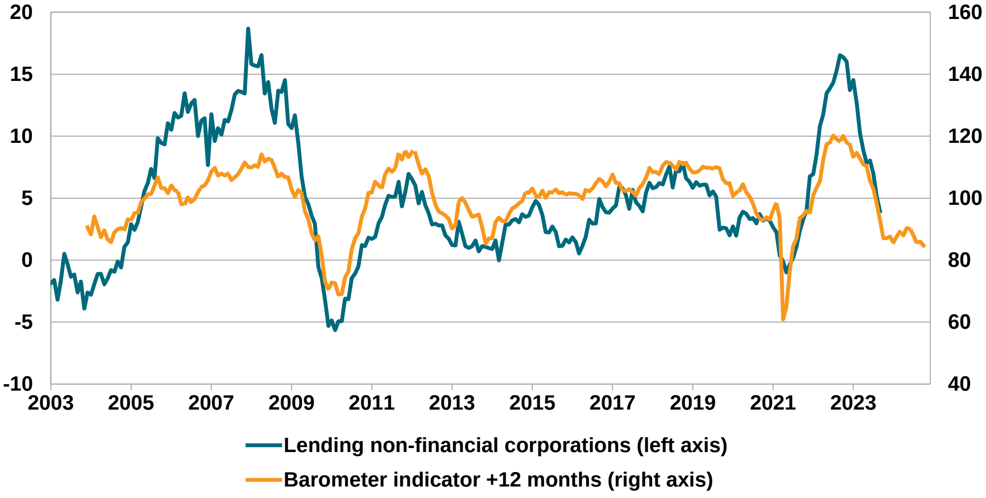
In 2022, bank lending to firms was unusually high, primarily driven by loans to the real estate sector, the service sector, the manufacturing industry and retail. Lending has clearly slowed during 2023 (Diagram 10). Lending to firms tends to reflect the state of the economy. Because the recession is expected to deepen, it is probable that lending growth will continue to drop.

A major increase in the number of bankruptcies clearly shows that the recession impacts firms. The number of bankruptcies is also large from a historic perspective. In October, 860 firms went bankrupt according to the Swedish Agency for Growth Policy Analysis. Between May and October, the number of bankruptcies reached the highest level since the 1990s. Bankruptcies increased most in the finance, real estate and corporate services industry, which, together with the construction industry, is also the industry with the most bankruptcies in absolute figures.

It is also apparent that the construction industry is exhibiting weak performance given the sharp reduction in construction production since the beginning of last year. Housing investments are also weak and have decreased by half since last year. The number of bankruptcies continues to be high also in the retail industry but has reduced since the peak at the end of last year. Retail sales volumes have also recovered somewhat.

10. Loans increasing more slowly

Annual change in per cent (left axis), index average = 100 (right axis)



Sources: FI, NIER, and Statistics Sweden.
Note: In September 2023, lending from monetary financial institutions to non-financial corporations grew by 3.9 per cent on an annual basis. The growth rate in August was 5.1 per cent. Lending growth rate up to and including 30 September 2023. Barometer indicator up to and including October 2023.

As of yet, the high number of bankruptcies has not led to significant credit losses for banks. The amount of realised credit losses is also lower than during the pandemic. If the bankruptcies continue to increase, it can lead to a reduction in demand for retail space, which would negatively affect CRE companies. So far, not that many employees have been impacted by the bankruptcies. However, if a greater number of people lose their jobs due to bankruptcies, those households will naturally be negatively impacted by a loss of income.

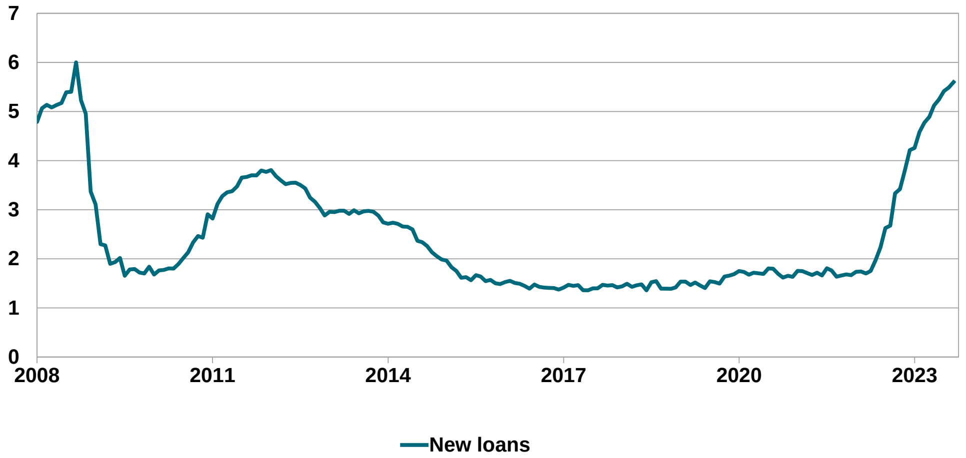
Higher interest rates have an increasing impact

Non-financial corporations will face higher interest rates going forward. Interest rates increased sharply during the second half of 2022 and have continued to increase throughout this year (Diagram 11). The fixed interest period of company loans is very short, with a full 78% of loans having a remaining fixed interest period of less than three months. An additional 5 per cent have a remaining fixed interest period of less than one year. As the corporations’ fixed rates reach maturity, the higher rates will have a larger impact on firms’ cash flows.

CRE firms continue to represent approximately 40 per cent of the total debt in the Swedish non-financial corporate sector. The CRE sector has been hit particularly hard by the higher interest rates. Among other things, the interest coverage ratios (ICR) have quickly deteriorated (Diagram 12). As several CRE firms have had loans with longer fixed interest periods or secured their interest rate with the help of derivative contracts, the entire interest rate increase has not yet reached its full impact. This means that the firms' financing costs will increase further as their fixed interest period expires. When the loans mature, the CRE firms will also be impacted by the rise in bank and bond risk premia compared to when the loans were taken out.

11. Lending rates to non-financial corporations rise

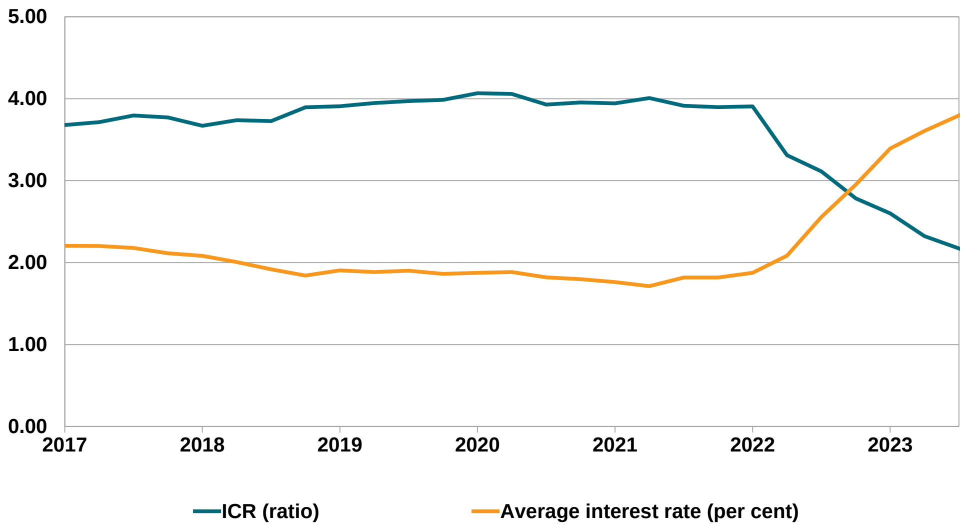
Per cent



Source: Statistics Sweden.
Note: Refers to the average interest rate on new loans from monetary financial institutions to non-financial corporations. Data through 30 September 2023.

12. CRE firms exhibiting ICR decline

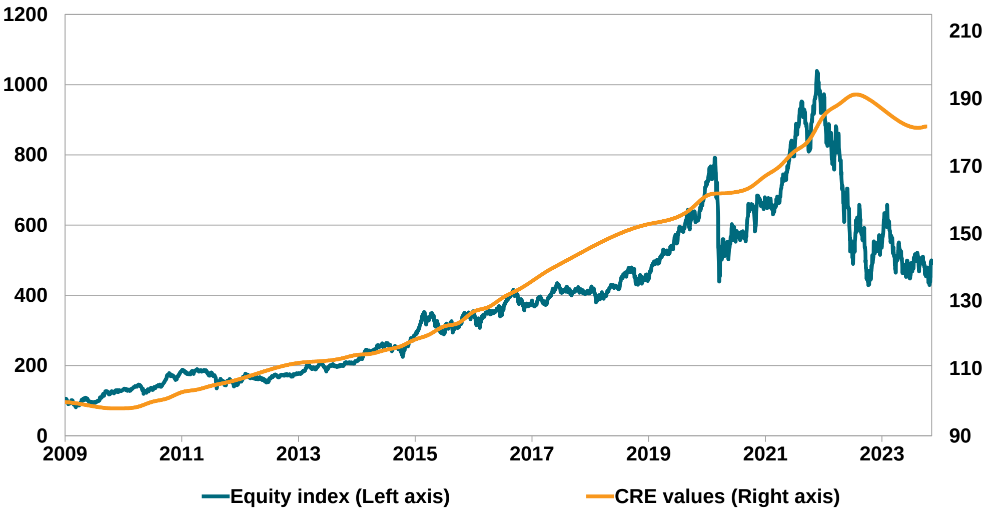
Per cent and ratio



Sources: FI and Sedis.
Note: Average interest rate and ICR for listed and larger privately owned CRE firms. The ICR is a 12-month rolling average and refers to the operating result divided by the net financial income. Data refers to the period up to an including Q3 2023.

Higher interest rates also lead to higher yield requirements, which in turn negatively impacts property values. So far, property values have dropped by about 6 per cent since their peak (Diagram 13). This reduction is not as great as the higher interest rate would imply.[14] Most CRE firms are valued at a significant discount in relation to their long-term net asset value.[15, 16] This can be due to the expectation that the firms will have a higher risk premium on future borrowing or difficulty refinancing maturities. This can also indicate that the market sees a risk that the firms need to sell properties for less than their market value.

13. Property values and equity index dropping
Index 31/12/2008 = 100



Sources: FI, Refinitiv and Sedis.
Note: Property values from quarterly reports for listed and larger privately owned CRE firms up to and including Q3 2023. The equity index for CRE firms is daily data up to and including 10 November 2023.

The valuation of property portfolios is central to investors and lenders being able to assess the firms' financial position and creditworthiness.[17] However, valuations are

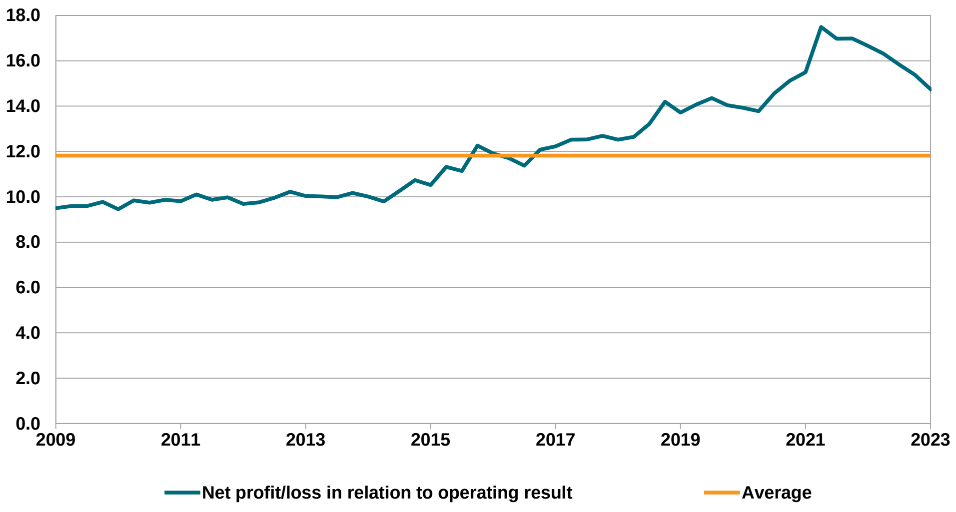
[14] For more information, see Aranki and Cronbäck (2023) "Commercial real estate firms may need to reduce their debt", FI Analysis No. 41, FI Ref. 23-29851.
[15] Net asset value is a measure of a firm's equity, which is calculated by subtracting the value of the debt from the value of the assets. The most important asset type is properties, and these have been measured at fair value according to the consolidated financial statement.
[16] For a table of current discounts/premiums to net asset value for the CRE firms, see Fastighetvärlden's and Sedis' compilation. https://www.fastighetsvarlden.se/aktuell-rabatt-premium/
[17] During the spring, FI commissioned a report on how CRE firms listed on a regulated market in Sweden value real estate. In addition, FI welcomed the industry and other affected parties to a discussion pertaining to the results of the report. The majority of the participants were of the opinion that the report reflects the situation in the industry, in all important areas. For more information, see Fastighetsvärdering i extern redovisning, FI

always uncertain. In the current environment of few property transactions and rapidly changing economic circumstances, uncertainty increases, making property valuations particularly challenging. Property values have an impact on the firms' LTV ratios and equity ratios. If the values are adjusted downward, the firms' equity ratios will deteriorate, which can lead to dips in market confidence and more expensive financing. It is therefore important for market actors to understand how the CRE firms value their property portfolios, not least in a downward phase. This will enable them to make their own assessments, make sound investment decisions and assess credit risk in a suitable manner.

CRE firms have begun to reduce their loans (Diagram 14). Their total bank and bond loans amounted to SEK 1,781 billion during Q3 2023. Just over two-thirds of these were bank loans. The loans are still high, but the credit growth has slowed. The annual growth rate amounted to just over 0.5 per cent at the end of Q3 2023. The corresponding figure during the pandemic was on average about 10 per cent and around 7 per cent at the end of Q3 2022. Though the trend is declining somewhat, the net debt in relation to EBITDA is still on a high level. This means that CRE firms are still sensitive to rising interest rates. Thus, many CRE firms need to take further action to strengthen their financial position by reducing their debt and thereby reduce risk and vulnerability (see In-depth Analysis "Commercial real estate firms may need to reduce their debt").

14. CRE firms have begun to adjust their debt

Ratio



Sources: FI and Sedis.

Ref. No. 16-13939 and FI Ref. No. 16-7161.
https://www.fi.se/sv/publicerat/nyheter/2023/rapport-om-fastighetsvardering-i-borsnoterade-fastighetsforetag/

Note: Refers to the volume-weighted ratio for listed and larger privately owned CRE firms. Net debt is interest-bearing liabilities less cash and cash equivalents. EBITDA is the total of operating surplus before central administration expenses. Data up to and including Q3 2023.

In-depth Analysis – Commercial real estate firms may need to reduce their debt

Swedish CRE firms need to reduce their debt. In this in-depth analysis, we estimate the scope of this need for larger privately owned and listed CRE firms. The calculations are described in more detail in Aranki and Cronbäck (2023).

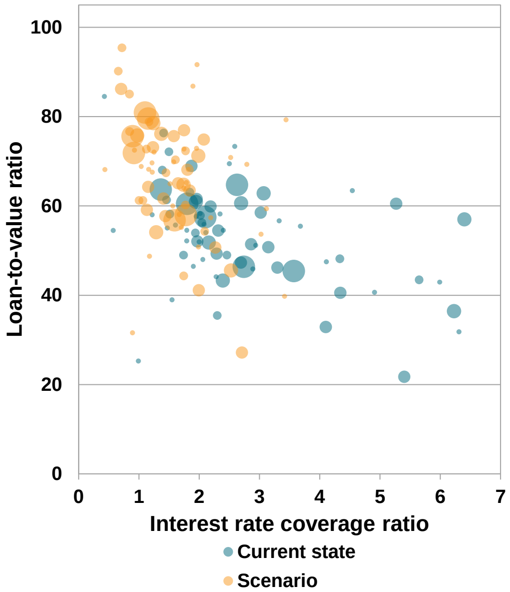
Higher interest rates have increased the firms' financing costs. These, combined with a weaker economic outlook, have resulted in lower property values. This development increases the pressure on the interest coverage and LTV ratios, both of which are important indicators for assessing the creditworthiness of CRE firms. In coming years, large maturities will need to be refinanced at considerably higher interest rates.

Though some firms have started to adjust their debt, more firms need to reduce their debt in a stressed scenario. Certain firms already need to reduce their debt to avoid an ICR under 1 or an LTV ratio above 70 per cent. These are benchmarks used by FI to identify vulnerable CRE firms. Lenders and credit rating institutions often specify less strained conditions or thresholds, such as an ICR between 1.5 and 2.0 or an LTV ratio of 50–60 per cent at most. The purpose is to capture early warning signals of potential problems and enable firms to take measures before becoming vulnerable.

In a scenario where the financing costs rise to 5 per cent and the real estate values drop by 20 per cent, around 15 per cent of firms become vulnerable according to FI's definition (Diagram B3). These represent about one-third of all interest-bearing liabilities. In this scenario, many firms need to reduce their debt, especially those that are currently highly leveraged. For each CRE firm to avoid an ICR under 1 and an LTV ratio above 70 per cent in such a scenario, a total debt reduction of about SEK 100 billion is required (Diagram B4). To reach an ICR of at least 1.5 and an LTV ratio of at most 70 per cent, a debt reduction of over SEK 300 billion is needed. This corresponds to just over 20 per cent of the CRE firms' current debt. It is primarily the ICR that drives the need to reduce debt in the scenario.

B3. CRE firms' interest coverage and LTV ratios

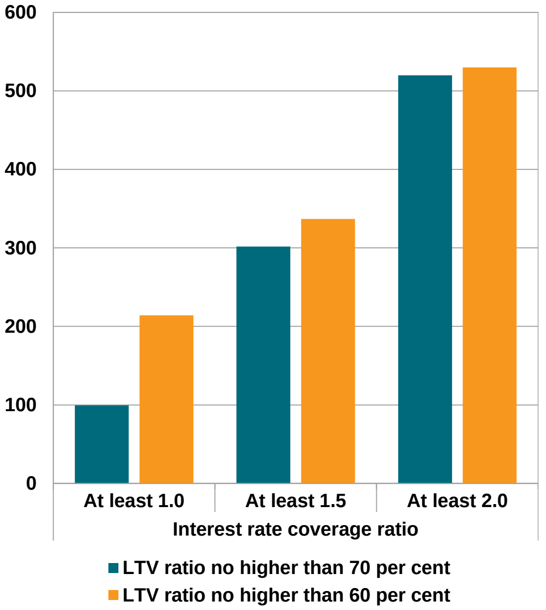
Ratio and per cent



Sources: FI and Sedis.
Note: The current situation shows the CRE firms' interest coverage and LTV ratios from the firms' most recent interim reports. The scenario is a calculation that assumes that the firms' financing cost increases to 5 per cent and the real estate values drop by 20 per cent. The size of the bubble reflects the size of the firms' total interest-bearing liabilities.

B4. Debt reduction for reaching a particular interest coverage and LTV ratios in a scenario with higher interest rates and lower real estate values

SEK billion



Source: FI.
Note: The diagram shows how much the CRE firms' debt must be reduced for the ICR to remain over 1, 1.5 or 2 and the LTV ratio to remain under 70 per cent and 60 per cent respectively in a scenario in which the CRE firms' financing cost rises to 5 per cent and the real estate values drop by 20 per cent.

If the firms were, instead, to decide to sell property and use the freed-up capital to amortise their debt, they would on average need to sell for about double the amount to reach the result obtained from issuing equity. This is due to the fact that the properties are leveraged. These liabilities need to be repaid before the remaining income from the sale can be used to reduce other debt. Many firms may need to sell a large portion of their property portfolio or raise capital by other means. More than half of the total need pertains to just a few firms. In the worst case, this means that there are concentration and contagion risks that can lead to a self-reinforcing process.

Therefore, more CRE firms should take action to fortify their financial position such as through new equity or property sales, and thereby reduce their risks and vulnerabilities. In practice, firms will most likely adjust their financial position in various ways and over a long period of time. The adjustment process can have an impact on the real estate market and on financial markets. FI will continue to analyse the CRE sector with a focus on its impact on financial stability.

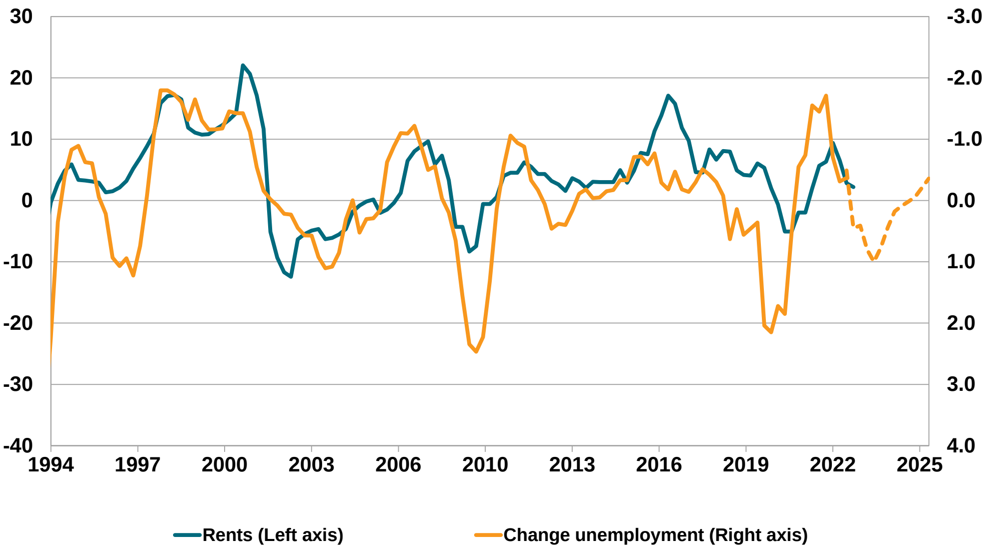
CRE firms need to refinance pending bond maturities

CRE firms have increased their rental income through inflation-indexed rental agreements in most segments (except for housing). This led to record high rental income during the first half of 2023 before growth slowing somewhat during the second quarter. The firms' earnings are greatly impacted by the activity level in the economy (Diagram 15). As bankruptcies and vacancies are now increasing, future rental income of CRE firms, and thereby their earnings, will likely no longer increase to the same degree.

Rising interest rates, decreasing real estate values and an expected levelling of earnings indicate that CRE firms may have trouble refinancing maturing loans in the future. The firms are still encountering extremely high interest rates on the bond market, and the issuance activity is low. At the same time, the firms will encounter large bond maturities in the coming years (Diagram 16). However, there is now some optimism on the bond market since certain firms with lower credit ratings, lower than A, have been able to issue bonds.

15. Rents follow unemployment

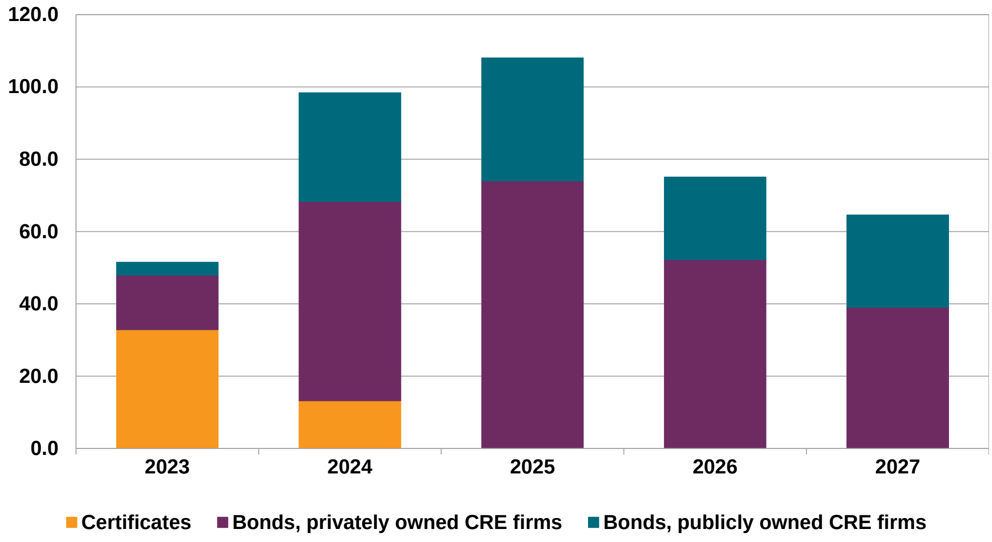
Per cent and percentage points



Sources: JLL, Pangea, the Riksbank and SCB.
Note: Rents refers to office rents in Stockholm, Gothenburg and Malmö (CBD). The change in unemployment is displayed on the right inverted axis. The dashed line refers to the Riksbank's unemployment forecast from September. Rental growth includes the period up to an including Q2 2023.

16. CRE firms encountering large maturities in the near future

SEK billion



Source: The Riksbank (SVDB).

Note: Non-financial firms, CRE firms. Nominal outstanding amount for September 2023. All currencies.

In the spring, when it was very difficult for firms with lower credit ratings to access financing on the bond market, the banks could cover some of the matured debt. As a result, more CRE firms requested bank loans. Now, against the background of the recession and interest rates, CRE firms' requests for bank loans are decreasing. In part, firms are investing less due to the economic downturn and in part, they are continuing to improve their financial ratios to achieve a more sustainable debt level.

FI concludes that the reduction we have seen in CRE firms' bank loans is primarily driven by the firms' own reduced demand. The banks have also somewhat tightened their lending conditions in the past year, but this only has a small impact on the slowing lending growth. CRE firms' bank loans are likely to decrease further as the recession deepens next year. FI takes a positive view of CRE firms adjusting reach a more sustainable debt level. However, further adjustments are needed. Especially firms with a low ICR, high leverage and short fixed interest rate adjustment periods will have difficulties if interest rates continue to be higher for longer and earnings level out in the deepening recession.

Stability in the banking sector

Major Swedish banks have been unusually profitable in the past year as a result of higher net interest income. However, the banks' lending portfolios continue to have significant risks, for example related to CRE firms. At the same time, the developments in the spring primarily in the bank sectors of the USA and Switzerland have also been a reminder that banks can experience large and rapid deposit outflows under certain conditions. The Swedish banks therefore need to continue to hold large capital and liquidity buffers that can be drawn upon if the economy deteriorates.

	Vulnerability	Change
Concentration and interconnectivity		→
Solvency and profitability		↘
Asset quality and credit risk		→
Financing and liquidity		→

The colors indicate the current level of vulnerability. Green represents low vulnerability. Yellow, orange and red indicate differing degrees of elevated vulnerability. The arrows show the trend for the vulnerability – increasing, decreasing, or unchanged. The level and trend are based on a combination of quantitative measurements and expert assessments.

Banking sector is concentrated and interconnected

The Swedish banking sector is largely concentrated to five major banks: Svenska Handelsbanken (SHB), SEB and Swedbank, as well as Nordea's and Danske Bank's Swedish branches and mortgage companies.[18] These 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. Problems arising in any of the major banks could potentially spread quickly to other financial firms. In recent years, competition on the banking market has increased, and the major banks have been losing market shares on some submarkets, for example mortgages. The concentration in the banking sector has therefore decreased somewhat over time, but despite this the major banks continue to play a central role in Sweden.

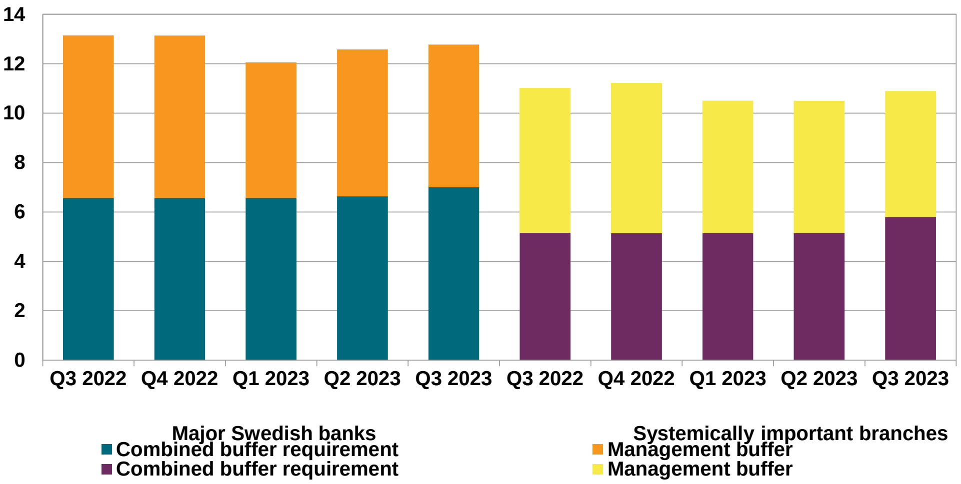
[18] For these five major banks, the figures refer to the consolidated situation unless otherwise specified. Together they represent around [73] per cent of deposits and lending to Swedish households and corporates and just under [68] per cent of the domestic payments. Danske Bank's and Nordea's Swedish branches are referred to going forward as "systemically important branches".

High profitability contributes to good resilience

The major banks continue to have significant capital buffers (Diagram 17). The banks' management buffers – the capital they hold in addition to the capital requirements – has been high since 2020 and has been able to continue to grow as a result of high profitability. FI decided in June 2022 to raise the countercyclical buffer rate to its neutral level of 2 per cent, effective from June 2023 (see Stability in the Financial System 2022:1), which has increased the combined buffer requirement. Thanks to their high profitability, the major Swedish banks still have large management buffers, despite significant dividends and higher buffer requirements.

17. Banks continue to have large management buffers

Percentage of risk-weighted assets



Sources: FI and the banks' reporting.

Note: Capital requirements as a share of risk-weighted assets. The management buffer includes the so-called Pillar 2 guidance, which for the Swedish major banks is 0.5 per cent.

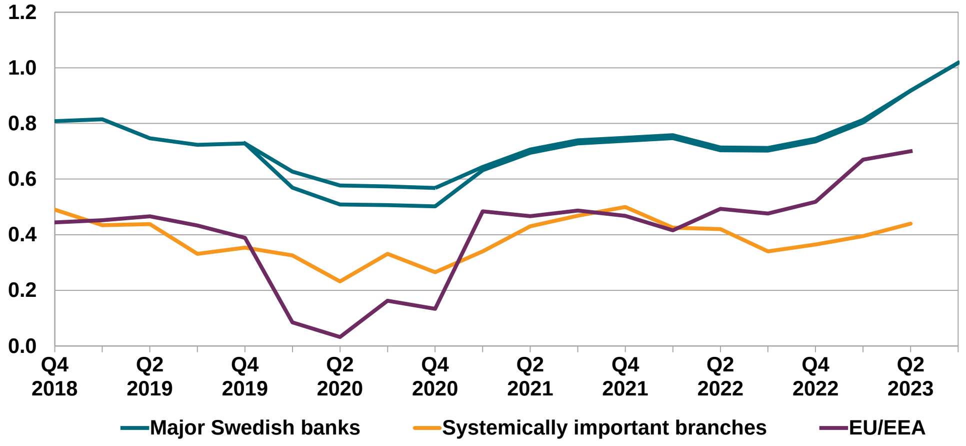
During the past four quarters, the profitability of the major banks has been unusually high from a historical perspective (Diagram 18). This has primarily been due to interest income from the banks' lending having increased more rapidly than financing costs, in particular from deposits. In comparison, the development in the major banks' net commission income and net financial income has been more subdued. As a whole, earnings of major banks continue to be high, even compared to European banks. However, in the latest quarters, the difference between major Swedish banks and European banks has decreased. The banks' high profitability means that it is easier for the banks to absorb any credit losses in a deteriorated economic scenario.

While the profitability of banks' lending increased, lending growth stagnated in 2023 as a result of higher interest rates. In most recent years, growth in lending was one of the major reasons for the increase in the banks' net interest income. It was primarily all lending to non-financial corporations that increased, while the margins on lending to the general public remained relatively constant. When the banks' lending no longer increased, their net interest income was impacted to an even greater degree by their financing costs (see section Banks' costs for market financing continued high).

At the same time as the interest rates were beneficial to the banks' net interest income margins, high interest rates and inflation have contributed to a deepening of the economic downturn. The financial situation of both households and companies has become more difficult, which can lead to higher credit losses for banks (see next section). This will be particularly clear when the expected recession leads to a great number of bankruptcies and higher unemployment. Falling asset prices have meant lower revenue from asset management, brokerage commissions and corporate finance.

18. The profitability of banks is unusually high

Per cent



Sources: FI and the EBA Risk Dashboard.
Note: Annualised return on total assets, four-quarter rolling mean. Dashed blue line excludes money laundering-related sanction fees in Swedbank and SEB in 2020.

In-depth Analysis – Major Swedish banks show resilience in EU stress test

In 2023, the European Banking Authority (EBA) conducted a stress test of the banking system in the EU and EEA based on a crisis scenario developed by the European Systemic Risk Board (ESRB). Stress tests are one of several ways to test the banks' resilience. The EBA has developed extensive method descriptions to make the results of the tested banks as comparable as possible.

The stress test scenario is three years long and entails a recession in the wake of difficult geopolitical development, higher commodity prices and a new wave of COVID-19 cases, resulting in high inflation and rising interest rates.

For Sweden, the scenario means that GDP falls by at the most 8.5 per cent, compared to 7.5 per cent for the EU as a whole, and that unemployment rises to 13.4 per cent. As a result of the weakened conditions, share prices fall by 55 per cent and Swedish long-term market interest rates rise by 2.5 basis points during the first year of the scenario. The ESRB makes the assessment that Swedish real estate prices are sharply overvalued. Therefore, housing prices fall by 33 per cent in the scenario. Commercial real estate prices fall by 34 per cent.

The stress test includes a sample of 70 banks and encompasses about 75 per cent of the bank sector in the EU and Norway. The banks calculate their results themselves but under the supervision of the supervisory authorities. In collaboration with EBA, FI has reviewed the Swedish banks' assumptions, calculations and results to ensure that the final calculations met the requirements on comparability. EBA published the results on 28 July. They show that the five Swedish banks that participated are resilient to the unfavourable scenario. During the scenario, the common equity Tier 1 capital ratio fell no more than between 2.0 and 4.5 percentage points for the major banks. For the other Swedish banks included in the stress test, SBAB Bank and Länsförsäkringar Bank, the capital ratio decreased by no more than about 1.5 percentage points. All Swedish banks in the stress test withstood the unfavourable scenario without breaching the combined buffer requirement[19] or the Pillar 2 guidance.

The common equity Tier 1 capital ratio fell by about 4.5 percentage points on average for the banks from the other EU countries, despite a more serious macroeconomic scenario for Sweden compared to almost all other countries (Diagram B5).

There are several reasons why the Swedish banks did so well in the test compared to other European banks. The primary reason is that Swedish banks start with higher earnings and lower expenses, which means that they can absorb more credit losses before they start to report losses that reduce their capital. Another reason is that the Swedish banks have a large share of loans with variable rates and a large share of loans without a fixed term. This leads to Swedish banks' net interest income benefiting more from rising interest rates in the 2023–2025 scenario compared to the average in 2022 than other banks (Diagram B6).[20]

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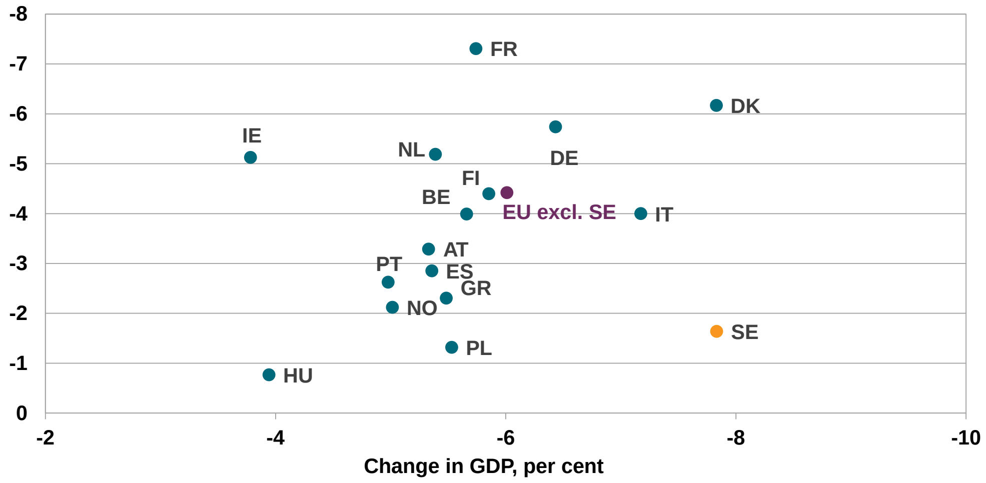
[19] The combined buffer requirement for Swedish banks consists of the capital conservation buffer, the countercyclical capital buffer, the systemic risk buffer and the buffer for other systemically important institutions.
[20] Note that the EBA's stress test method does not allow for increases in the net interest income and decreases in expenses in the unfavourable 2023–2025 scenario, compared to 2022.

B5. Limited capital reduction despite severe scenario

Change in CET 1 ratio, per cent

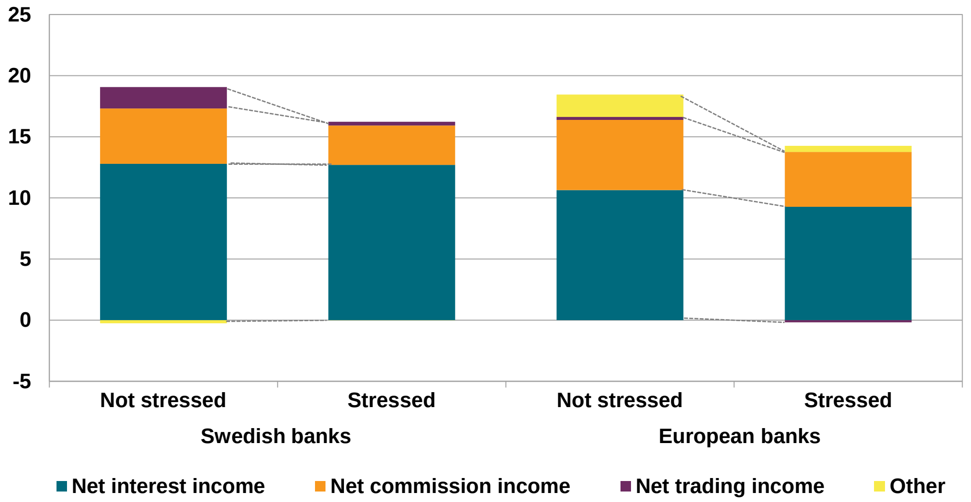


Source: EBA.

Note: The diagram shows the downturn in GDP and the decrease in capital for a median bank in each country. The downturn in GDP can be viewed as a simplified measure of how hard each country's banks are stressed.

B6. Swedish banks have higher earnings even after stress

Operating income as a share of risk-weighted assets, per cent



Source: EBA.

The results in the EBA's stress test support FI's assessment that the resilience in Swedish banks is satisfactory and that they have sufficiently large capital buffers to be able to continue to supply credits to the real economy even in the event of a severe economic shock.

Credit risks in corporate lending are clearer

Aside from a temporary increase during the pandemic, Swedish banks have had very low credit losses for a long time. The state of the economy turned downward in 2022 as interest rates rose. Both households and companies are now being hit by increased costs as a result of higher interest rates and inflation. How long the higher interest rates will remain is uncertain, and as the periods of fixed interest terms expire, the higher interest rates will have an increasingly great impact. (See the Non-financial corporations and Households chapters.) If parts of the household or corporate sector experience problems, this could lead to larger credit losses for banks.

It has emerged in FI's discussions with the banks that there is less uncertainty in their risk assessments now than there was in the spring. They can now more easily identify their weaker exposures and thereby, the customer segments they can expect credit losses from. This is reflected in the fact that banks started to increase their credit loss provisions in stage 2 during the year (Diagram 19) .[21] The provisions in stage 2 are now at a higher level than during the pandemic. Yet, the banks' provisions in stage 3 (defaults) remain relatively unchanged. The largest increase of provisions in stage 2 was for corporate lending, which reflects the challenges that non-financial corporations are exposed to (see chapter Non-financial corporations).

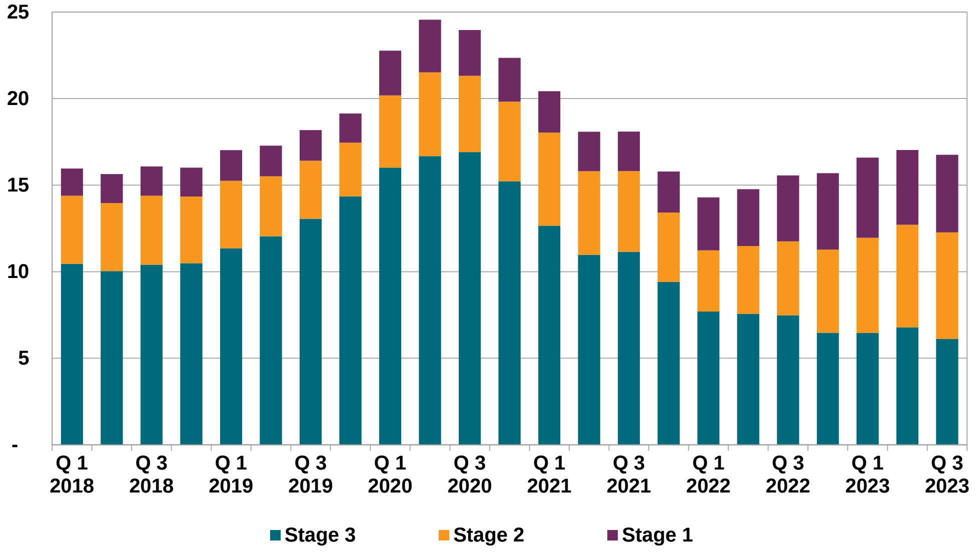
The banks hold large exposures to the CRE sector, which represents between 16 and 36 per cent of each bank's lending to the general public. In terms of the corporate lending of major banks, loans to the commercial real estate sector correspond to between 34 and 76 per cent. Since autumn 2022, the terms on the capital market have been very strained for CRE firms. The firms have had difficulty in issuing bonds, which has caused the firms to seek out bank financing to a greater degree. This has led to further exposure to the sector for banks (see chapter Non-financial corporations). At the same time, some CRE firms have begun to reduce their debt. It is FI's view that the banks are working with their existing customers to reach a sustainable debt level. This is positive, but further adjustments are needed.

The major banks have a relatively high level of collateral. For the major bank's lending to the CRE sector, the loans comprise about 50 per cent of the market value of the collateral. Though the value of collateral can drop, it nonetheless is a substantial safeguard from realised losses caused by potential bankruptcies. The combination of collateral and provision increases means that the banks have certain protection from realised losses if the economy continues to deteriorate.

[21] Loans in stage 2 are underperforming loans with a significantly higher credit risk. In stage 3, a loss event has occurred and the loan is impaired.

19. Credit loss provisions continue to increase

SEK billion

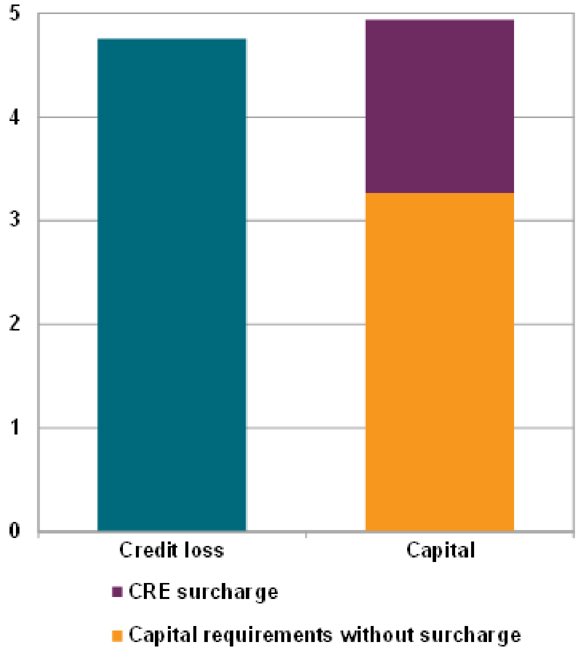


Sources: FI and the banks' reporting.
Note: Refers to the three Swedish major banks' total credit loss provisions for loans and interest-bearing securities that were reported as accrued cost. Provisions for off-balance sheet items and assets held for sale and discontinued operations are not included.

FI's stress test shows that over one-fourth of CRE firms become vulnerable in a scenario where the firms encounter higher financing costs and lower earnings (Diagram B2 in the Diagram Appendix).[22] These vulnerable firms represent more than 30 per cent of bank lending to the sector. This is an increase compared to previous years showing that the risks with bank lending to CRE firms has increased. The firms that become vulnerable in our stress test can cause credit losses of about 4.8 per cent of the banks' total lending to CRE firms (Diagram 20). This corresponds to around SEK 50 billion. A great portion of the credit losses come from small to medium sized firms with high risk in times of stress. But larger, privately owned and listed CRE firms have, in recent years, increased their bank loans and now account for a larger portion of the banks' total lending to the sector.

[22] Stress refers to a scenario in which the CRE firms' interest increases by 3.5 percentage points and GDP drops by 5 per cent. Given assumptions regarding outcome and elasticity, the scenario means that the CRE firms' financing costs would increase by over 2 percentage points to about 5 per cent on average. At the same time, earnings drop by 15 per cent for CRE firms and 5 per cent for commercial residential property firms.

20. Credit losses in FI's stress test and the banks' capital requirements
Per cent of lending to CRE firms



Source: FI.
Note: The estimates are based on data from Q4 2022. Credit loss refers to estimated credit losses during periods of stress. Capital requirements without a CRE surcharge refers to the Pillar 1 requirement and capital buffers calculated from the risk weights the banks calculate themselves for loans to commercial real estate. The CRE surcharge specifies Pillar 2 requirements attributable to credit risks in commercial real estate.

The banks are capable of carrying these losses. As banks make ongoing provisions for expected credit losses,[23] they also set aside capital for their lending intended to cover unexpected credit losses. The amount of capital is determined, for example, by the risk weights the banks calculate themselves. FI has also raised the capital requirements on banks' exposures to CRE firms.[24] The capital surcharge further contributes to the banks having sufficient capital to cover the losses that can arise according to our stress test.

Banks' market financing costs continued high

The banks strengthened their liquidity buffers during the pandemic and have since then maintained them at a high level. They therefore have good margins that can be used if the situation were to deteriorate. The leverage coverage ratio (LCR) and net

[23] Bank provisions amounted to 0.2 per cent of lending to CRE firms in Q4 2022.
[24] On 30 September 2023, FI introduced a risk weight floor according to Article 458 of the Capital Requirements Regulation and removed the risk weight floors previously applied under Pillar 2.

stable funding ratio (NSFR) both exceed the regulatory requirements with good margins.[25]

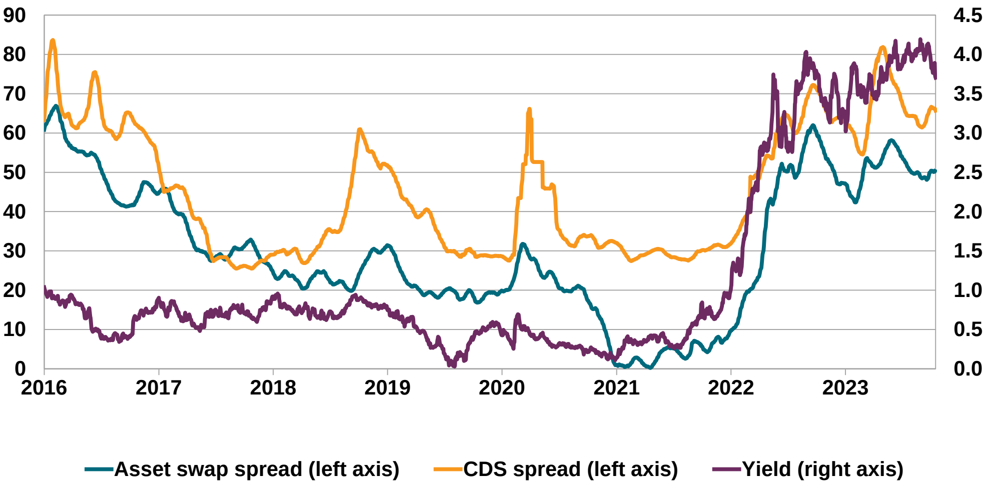
Deposit volumes declined somewhat at the end of 2022, both in absolute terms and as a share of lending, but lending in the Swedish major banks has since stood still. Lower deposits would increase the banks' need for market funding, which is significantly more expensive in the current market conditions. Consequently, lower deposits would have a negative impact on the profitability of banks.

Swedish banks fund themselves largely through market financing via certificates and covered and unsecured bonds. When interest rates rise, banks' funding costs also rise. Banks' fundamental business model, with short-term financing and long-term lending, also makes them dependent on market participants' confidence. A measure of confidence is the credit spreads for the banks' borrowing. Both financing costs and credit spreads increased sharply in 2022 and have remained at this high level (Diagram 21). To a great degree, this is due to a normalisation of market rates and risk premiums following the long period of low interest rates. During 2023, they also exhibited high volatility, especially during the spring. This was primarily due to the problems that a number of American banks and Swiss major bank Credit Suisse had that led to a period of general uncertainty on the market. The probability of a similar course of events in Swedish banks is low, however, for several reasons (see the in-depth review "Turbulence in the banking sector in the spring of 2023" in Stability in the Financial System 2023:1).

The banks have largely been able to pass on the higher financing costs to their customers through loans. At the same time, they have not raised their deposit rates as much as their lending rates. This means that the banks have been able to increase their net interest income and their profitability despite the higher costs for market financing.

[25] LCR – Ratio between high-quality liquid assets held by the bank and the outflow during a 30-day stress test scenario.
NSFR – Ratio between available stable financing and the need for stable financing during a 30-day stress test scenario.

21. Financing costs are elevated and volatile
Basis points



Sources: Refinitiv.
Note: Asset swap spread: credit spread for Swedish covered bonds with estimated fixed duration, five-year effective maturity; refers to one-month rolling average for the three major Swedish banks and Nordea. CDS spread: credit spread for senior unsecured bonds; refers to one-month rolling average for the three major Swedish banks, Danske Bank and Nordea. Yield: interpolated market yield for Swedish covered bonds with estimated fixed duration, five-year effective maturity. Refers to the average for the three major Swedish banks and Nordea.

In-depth Analysis – Is deposit funding less stable now than it was before?

The turbulence that impacted a few American banks and Credit Suisse last spring was characterised by large deposit withdrawals in a short period of time. The fact that customers withdraw money from a bank perceived to be having problems, whether right or wrong, is nothing new. However, the course of events seems to have been accelerated by a few factors pertaining to the digitalisation of society and the bank sector. In part, in the American banks' case, customers were spreading extensive rumours in social media and other digital forms of communication. To a degree, digital bank services and apps enable customers to react rapidly to information and withdraw their money at very short notice.

Everything points to these trends continuing. A further development in the area of digital banking services is the rise of comparative and intermediate services. These are companies that through apps or online services enable customers to compare terms and conditions such as deposit rates between banks. More advanced services offer customers the possibility to move deposits to banks with higher rates. This phenomenon is not yet overly widespread. But if this type of service were to grow, it could lead to large flows between banks. In a situation in which banks compete for customer deposits using deposit rates, it could lead to abrupt shifts in the financing situation of individual banks. This increases the risk that bank inflows and outflows become more volatile, which could pose a risk to stability in the long term. This also means that banks' financing situation can appear as more reliable than what it actually is as deposits from the public are traditionally viewed as a stable source of financing.

Each month, banks report their liquidity to FI. Finansinspektionen has an ongoing dialogue with banks regarding risks, including liquidity risks. We also carefully monitor development in the area of digital banking services and comparative and deposit intermediaries to understand how they may impact stability in the banking system.

In-depth Analysis – FI aims to leave the countercyclical buffer rate unchanged in the fourth quarter

The countercyclical buffer rate has been at 2 per cent since June 2022. This corresponds to the positive neutral level that FI applies to the buffer rate during normal periods, that is, during periods in which FI does not see unusually high cyclical systemic risks or that such risks are building up.

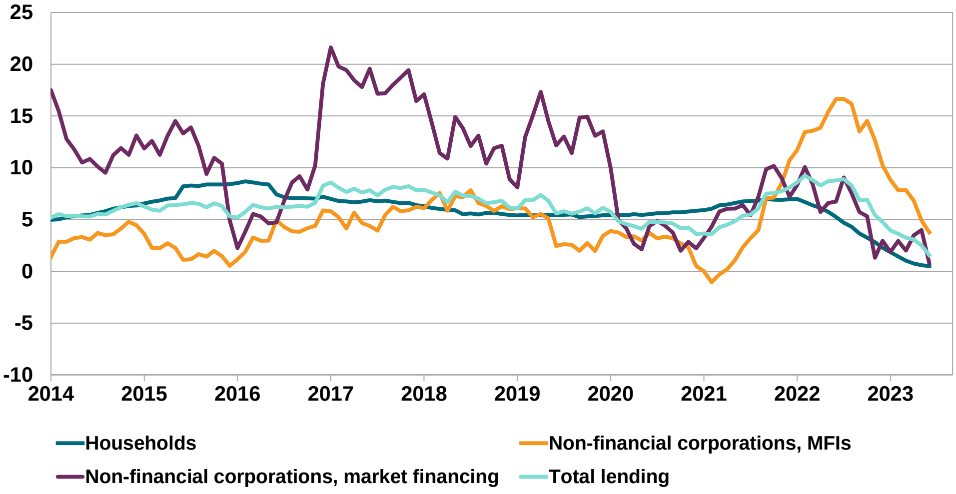
Inflation fell following the central banks' strong tightening of monetary policies. At the same time, there has been a rise in the likelihood that interest rates remain on a higher level for a longer period of time. The Swedish economy has entered a recession. Households continue to be under pressure from the price increases that have been and from higher mortgage interest rates (see chapter Households). Expectations about one's personal finances in one year are low.[26] This development has led to a continued low activity level on the housing market. Though housing prices decreased earlier, they have remained the same throughout 2023. Overall, mortgages are growing increasingly slower. Consumer credit has also grown more slowly, but the growth rate started to rise somewhat in the beginning of autumn 2023. Still, consumer credit is a small portion of household loans, and the total lending to households is growing slower than it has in over twenty years.

The state of the business sector continues to be weaker than normal, with the exception of the manufacturing industry.[25] A weaker economy and more expensive financing is likely to slow firms' investments. The non-financial corporations' bank loans have also grown at a slower rate in recent months (Diagram B7). Corporate financing via financial markets is also growing at a somewhat slower rate. During the second quarter, GDP grew more than lending to households and firms. Therefore, the credit-to-GDP gap shrunk slightly, and the buffer guide remains at 0 per cent (Diagrams B8 and B9).

[26] According to the Economic Tendency Survey, October 2023, National Institute of Economic Research.

B7. Growth in total lending continues to slow

Annual percentage change

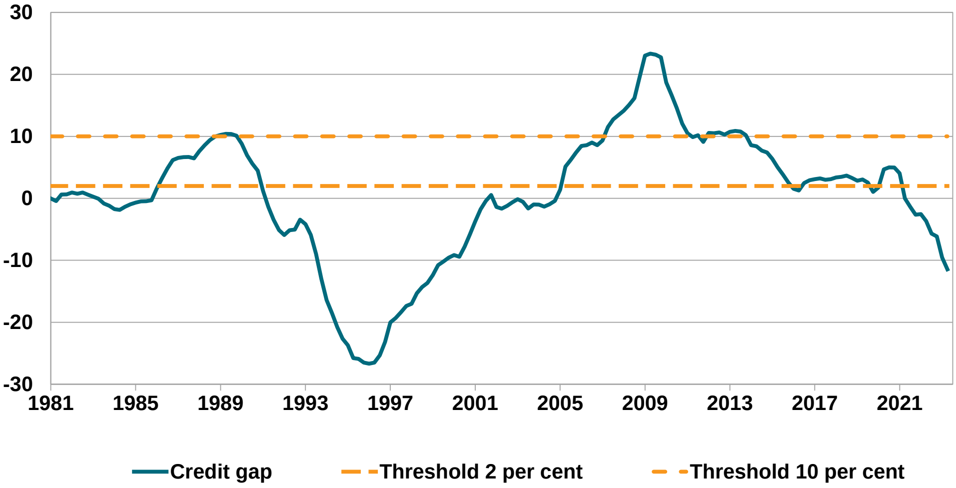


Sources: FI and Statistics Sweden.

Note: Monthly data. “MFI” stands for monetary financial institution.

B8. Credit-to-GDP gap decreased slightly in the second quarter.

Deviation from trend, ppts



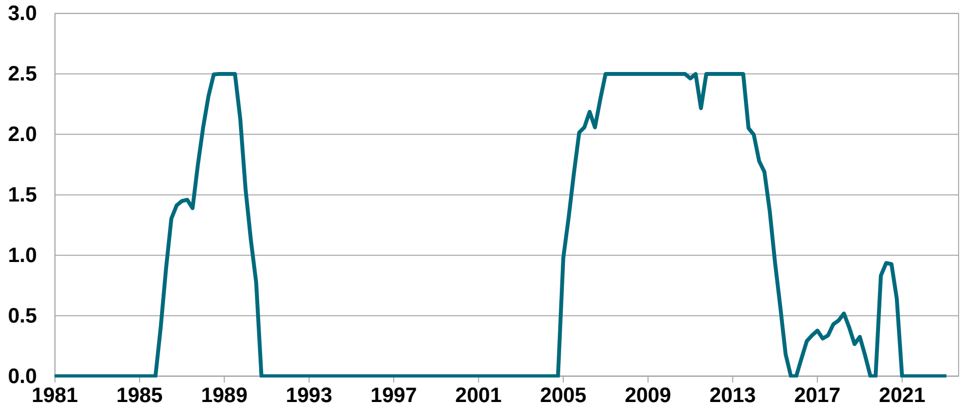
Sources: FI and Statistics Sweden.

Note: Credit-to-GDP gap according to the standardised approach. The dashed lines show the thresholds (2 and 10 per cent, respectively) that according to the standardised approach are to be used to transform the credit-to-GDP gap into a buffer guide.

The slower lending to households and companies means that systemic risks are decreasing. The decrease in the willingness on the financial markets to take risk is also pointing in the same direction. At the same time, the sharp drop in demand may require some firms to turn to the banks going forward. Difficulties in gaining access to market financing can also further increase the demand for bank loans. It is therefore important for the banks to be able to meet demand for loans from viable firms in the future. If FI were to make the assessment that this is not the case, we can lower the buffer rate to free up room for the banks to loan more, but the banks continue to have high profitability and large management buffers (Diagram 17 in the chapter "Stability in the banking sector"). Therefore, FI makes the assessment that they are still able to maintain the supply of credit. FI also does not see any signs that the banks' credit supply to firms has been weakened. FI therefore intends to leave the countercyclical buffer rate unchanged in Q4 2023.

B9. Buffer guide remains at 0 per cent

Per cent



Sources: FI and Statistics Sweden.

Note: Buffer guide according to the standardised approach.

Stability in the insurance and fund sector

Life insurance undertakings and occupational pension undertakings are large investors in the financial markets and are impacted by their development. The undertakings need to have buffers and well-diversified portfolios to be able to withstand major shocks on the financial markets. The fund market is also substantially impacted by events on the financial markets and needs to be able to manage large liquidity flows, even during times of economic uncertainty.

	Vulnerability	Change
Investment risk in the insurance sector	Orange	→
Financial position in the insurance sector	Green	→
Concentration of assets in the insurance sector	Yellow	→
Liquidity risk on the fund market	Yellow	→

The colors indicate the current level of vulnerability. Green represents low vulnerability. Yellow, orange and red indicate differing degrees of elevated vulnerability. The arrows show the trend for the vulnerability – increasing, decreasing, or unchanged. The level and trend are based on a combination of quantitative measurements and expert assessments.

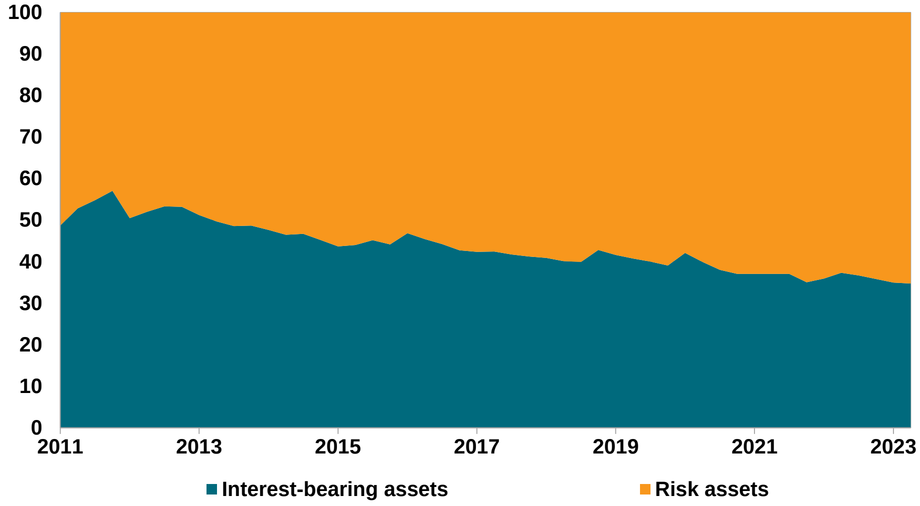
Investment risk remains high in the insurance sector

Life insurance undertakings and occupational pension undertakings possess a great deal of risky assets such as shares, real estate and unlisted assets (Diagram 22). To a great degree, this can be explained by the low interest rate environment that existed for many years. To not only be able to fulfil long-term financial guarantees in insurance commitments but also live up to customer expectations on returns, undertakings have needed to invest in assets other than interest-bearing securities.

Risky assets have benefited the undertakings during times of high growth and good returns. The economic situation is now another, characterised by high inflation and rising market rates. The risk of sharp downward price corrections is higher and the return potential more uncertain. Assets that are not traded on regulated markets and are less liquid can also be more difficult to sell in stressed market conditions or can only be sold at a drastically reduced price.

22. Percentage of risky assets is still high

Per cent



Source: Statistics Sweden.
Note: The diagram refers to the distribution of life insurance undertakings and occupational pension undertakings between interest-bearing and riskier assets. Interest-bearing assets consists of listed interest-bearing assets, subordinated loans, corporate bonds, and cash and cash equivalents. *Risky assets* here refers to shares, real estate, alternative investments, and unlisted direct loans.

Insurance undertakings’ financial position still good

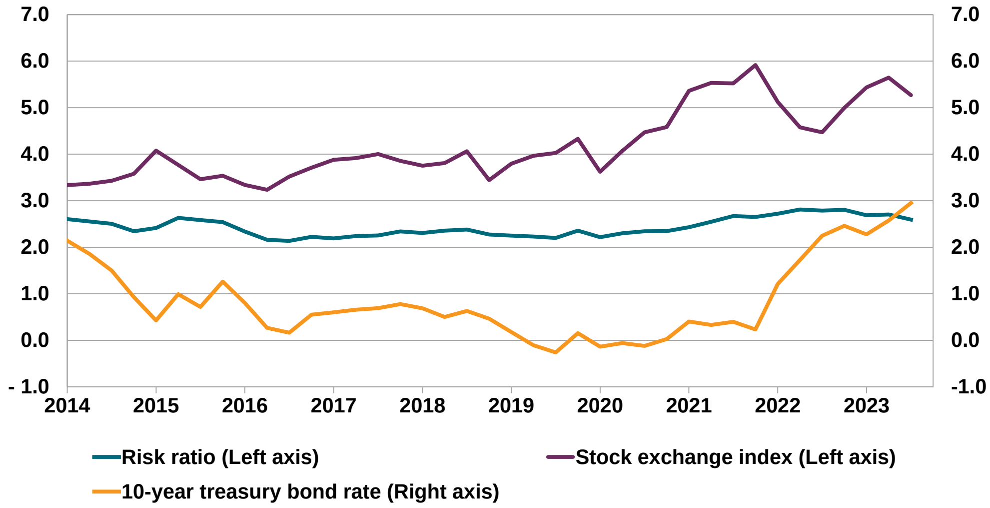
Insurance undertakings are impacted differently by high inflation and higher market rates. Life insurance undertakings and occupational pension undertakings generally have large interest-bearing portfolios, which are negatively impacted by rising market rates. On the other hand, the calculated present value of long-term insurance commitments, which generally have significantly longer maturity terms than assets, will be lower and greatly compensate the value reduction that occurs in interest-bearing securities. Exposure to interest-sensitive assets and the maturity term of the pension liability are of great importance to the effect inflation has on the undertakings.

On the whole, the economic downturn can lead to a greater unwillingness in investors to take risk and the price of risky asset types can drop. As insurance commitments are impacted by risk-free interest, it is not certain that the value reduction of these assets will also be compensated by a lower calculated value of the pension liability. The number of investment assets covering insurance commitments can thereby reduce and impact solvency. However, if the current market rate levels continue, it will probably be more advantageous to reinvest in interest-bearing securities due to their higher return. This can make a reduction in risky assets possible in the long term.

The profitability of life insurance and occupational pension undertakings is of importance for the financial stability in the sector. If higher costs and poorer returns lead to lower profit, it can in turn, deteriorate the undertakings' buffers for withstanding major shocks on the financial markets. FI currently assesses that undertakings have buffers to withstand sharp downturns without having to sell assets that would thereby reinforce a downward trend (Diagram 23). In the case of unit-linked insurance undertakings, where the policyholder bears the investment risk and a great deal of the capital is under the right of transfer, a continued economic downturn can lead to less savings and increased lapses, affecting profitability in these undertakings. These undertakings, though, are not considered to have a direct impact on financial stability.

23. Solvency is still good

Ratio and per cent



Sources: FI, Nasdaq OMX and the Riksbank.
Note: Through 31 December 2021, the diagram shows the traffic-light ratio for life insurance undertakings that applied the Solvency I regulations before they were converted to occupational pension undertakings. Since 31 March 2022, solvency is shown in accordance with the new occupational pension regulation. The series is a mix of two measurements that we have chosen to call a risk ratio. Data as of 30 September 2023.

Concentration risk in insurance undertakings' investment portfolios

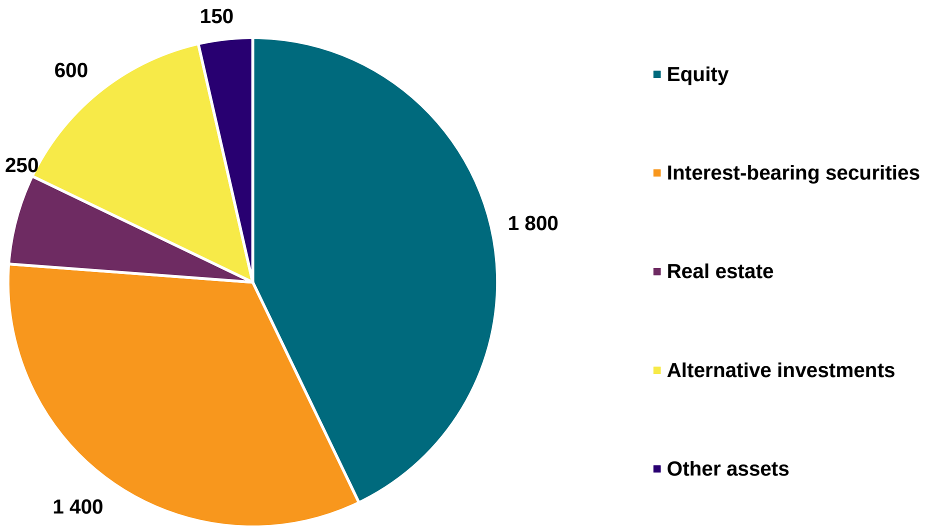
In their role as major investors on the financial markets, life insurance and occupational pension undertakings become interconnected with other parts of the financial system (Diagram 24). This interconnection exists with the banking sector with which these undertakings have major exposures, primarily toward Swedish banks. However, a large portion of this exposure consists of covered bonds which carry relatively low risk (Diagram A4 in the Diagram Appendix).

Another connection they have with other parts of the financial system is via holdings in the real estate sector. This exposure is made up of, for example, direct property ownership and shares and bonds connected to the real estate sector (Diagram A5 in the Diagram Appendix). Life insurance and occupational pension undertakings also have indirect exposures to the sector via bank lending. At present, real estate-related assets are associated with considerable valuation uncertainty and can be difficult to sell in uncertain market conditions. Real estate exposures have not changed significantly over time.

Undertakings also have a larger total exposure to so-called alternative assets. This category primarily consists of various forms of funds that invest in unlisted assets. If risk-taking decreases on the financial markets, the demand for such holdings can also decrease, causing major decreases in value (see section The macrofinancial state). Life insurance undertakings and occupational pension undertakings are long-term investors and have the possibility of investing in less liquid assets, but this requires them to have well-diversified portfolios and other liquid assets.

24. Distribution of investment assets

SEK billion



Source: FI.

Note: Asset distribution of life insurance and occupational pension undertakings as of 30 September 2023, excluding unit-linked and deposit insurance.

Risks on the Swedish fund market

The interest rate impacts the risk level in funds, especially bond funds and funds with high exposure to the real estate sector. Lowered credit ratings and reduced financing opportunities on the primary market can increase uncertainty and impact liquidity on the secondary market when the market is turbulent. Higher market rates cause long-term fixed-income fund holdings to drop in value. If the interest rates remain high for a longer period of time, fund savers may need to reduce their savings to handle increased housing and other subsistence costs. If savings drop and savers redeem their fund units, it can lead to an increased supply of bonds and fewer buyers. The situation can be further reinforced by major banks no longer continuing to support purchase bonds. So far, FI has not identified any trend break in Swedish fund savings. During the second half of the year, equity funds and long-term fixed-income funds have experienced inflows whereas hedge funds have experienced outflows.

It is critical to be able to value funds' holdings, but market turbulence can lead to difficulties in valuing assets. Valuation uncertainty combined with unexpected outflows from investors can lead to fund managers having to delay selling and redeeming certain funds. Such a situation occurred in March 2022 when the trade of 45 Swedish funds was delayed by a few days. It is therefore important that fund managers have robust valuation models that ensure correct valuations, even in strained conditions.

In an in-depth analysis, FI has found information deficiencies in fund managers' internal guidelines for valuing fund holdings. Being able to make correct valuations is important in terms of confidence in the fund sector and for consumer protection. FI expects fund managers to promptly review their internal guidelines for valuing securities to ensure that they comply with the requirements.

Market turbulence and difficulties valuing assets can lead to increased liquidity risks and that certain funds are difficult for investors to redeem. It is therefore important that fund managers ensure an adequate matching of the funds' assets and liabilities.[27] Swing pricing[28] can also be used to manage liquidity risk. To a certain degree, the tool can be used to reduce the risk of outflows while also reducing the risk of remaining investors being disadvantaged by substantial in- and outflows.

[27] FI has developed a stress test tool to be able to regularly monitor funds' liquidity risks. The tool is based on simulations of large outflows and funds' ability to meet these flows by selling various assets; see Crosta and Sandström (2022), "Stresstester av fonders likviditetsrisker", FI Analysis 37, FI. An English translation is available at www.fi.se.
[28] Swing pricing is a tool to price fund units by redistributing costs in the fund to those who caused the costs. See Ett likviditetsverktyg för fonder (Bill 2022/23:65) https://www.regeringen.se/rattsliga-dokument/proposition/2023/02/prop.-20222365 and Ändrade föreskrifter med anledning av nya regler om likviditetsverktyg för fonder, FI Ref. 22–25593 https://www.fi.se/globalassets/media/dokument/fffs-bilagor/2023/beslutspm-fs2310-2311.pdf

Though there are certain fund segments, such as high yield funds, that are considered to have a higher liquidity risk, FI assesses that the impact of liquidity risk from the Swedish fund market can currently be managed by fund managers. Their management of liquidity risks has been a priority for FI for many years and will continue to be a priority in the future.

In-depth Analysis – Opportunities and risks associated with premium pension fund procurements

Of the parts of the national pension system, premium pension is the part that invests in mutual funds. The premium pension system is being restructured such that the entire selection of funds will consist of procured mutual funds, excluding Sjunde AP-fonden. The purpose of the procurement is to raise quality while lowering fees on funds in the premium pension.[29] The procurements will be based on categories in the existing premium pension and vary in size. The transition will be ongoing until May 2025, at which time, all capital will be placed in procured funds. In the case that a mutual fund that now exists in the premium pension does not win a bid in the procurement, the fund will be phased out from the premium pension and the money will be distributed to other mutual funds.

The amount of capital affected amounted to SEK 1,084 billion in August 2023. FI has preliminarily identified a number of risks pertaining to the procurements:

Liquidity risks: The procurement of funds will result in large reallocations of capital to and from funds during a short period of time. The scope of the flow may lead to the liquidity of certain assets being insufficient. Should a liquidity shortfall arise, it can result in the need to delay and redeem fund units both inside and outside the premium pension. It is important that the affected fund managers can manage liquidity risks that could possibly arise as a result of the capital that is managed within the premium pension and the current market conditions.

Market impact on individual instruments: Mutual funds can invest a certain amount in less liquid instruments. Large mutual funds can also own a significant portion of the total outstanding volume of specific instruments. If a fund manager needs to quickly realise large positions, it can have a negative impact on the price of the instrument. In the same manner, large inflows into mutual funds can have a positive impact on the price if the purchase pressure on specific instruments quickly increases. There can be additional reinforcing negative effects if market actors profit from the large flows through derivative positions. In such a scenario, large institutions and small investors can be impacted and damage may arise if unjustified movements of individual securities occurs on the market.

[29] For more information see, Ett bättre premiepensionssystem, Bill 2021/22:179, https://www.regeringen.se/rattsliga-dokument/proposition/2022/03/prop.-202122179

Operative stability risks and financial infrastructure

Cyber security and preparedness have gained greater importance for the financial sector as the security policy situation has deteriorated. In addition, the financial sector is highly digitalised and its actors are interlinked in a way that may bring about risks. It is therefore important that companies in the financial sector have sufficient systems and procedures for managing cyber risks. Companies also need to regularly analyse and evaluate vulnerabilities and take measures to counteract such risks.

	Vulnerability	Change
Financial infrastructure	Yellow	→

The colors indicate the current level of vulnerability. Green represents low vulnerability. Yellow, orange and red indicate differing degrees of elevated vulnerability. The arrows show the trend for the vulnerability – increasing, decreasing, or unchanged. The level and trend are based on a combination of quantitative measurements and expert assessments.

Deteriorating state of the world increases risks in the financial system

Rising tensions in the world and the ongoing Russian invasion of Ukraine have severely damaged the state of national security. According to the Swedish Security Service, several nations are conducting systematic, extensive intelligence and security-threatening actions against Sweden and Swedish interests. The deteriorating state of the world increases the risk of cyber attacks, disinformation, infiltration and sabotage on Swedish interests, including the financial system.

An extensive interruption in the financial system can have consequences for security throughout Sweden. For the past two years, FI has been responsible for protective security supervision of the financial corporations area. According to public security legislation, great responsibility falls upon undertakings to identify their operations’ protection values and, where necessary, take relevant protective measures. This entails undertakings needing to identify activities that are worthy of protection from a national perspective, not only from the undertaking's perspective. Among other things, undertakings need to assess their dependency on other undertakings and their processes, or on society in general, to determine whether their operations are worthy of protection from a national perspective. This type of analysis is complex, can take a long time to conduct, and needs to be followed up regularly. As part of its supervision, FI monitors how undertakings work with this.

In-depth Analysis – How can operative stability risks arise?

A high degree of digitalisation, interlinkage between market actors, concentration risks in the form of outsourcing to a limited number of suppliers, and mutual dependencies on certain critical services are factors that increase the potential consequences of cyber attacks. Critical services are those for which extensive operational interruptions can impact the system’s stability, continuity or quality of financial services.

Interlinkage does not only pertain to technology and financial flows, but also various types of financial exposures such as loans or derivative contracts that directly connect financial actors. A substantial attack on such systems, infrastructure or critical actors on the Swedish finance market can have extensive consequences for individual financial corporations, their customers and society at large. Extensive interruptions or disruptions to the ability to make payments, for example, can have serious consequences for the general public, the public sector and companies. As such, such a disruption or interruption can seriously damage financial stability and confidence in the financial system as a whole. The interlinkage can cause an incident or attack to rapidly spread and cause great damage. As conceivable actors are becoming increasingly resourceful, this poses a significant risk in the area of cyber- and information security.

Just over a year ago, FI was designated as the civil defence sector-responsible authority for the financial services emergency response sector. In respect of this assignment and to increase FI's focus on payments and preparedness, the authority collected all relevant issues under the new Payments section in 2023.

Digitalisation requires greater resilience to technical disruptions

Resilience to technical disruptions, that is, the operative capacity to manage security in the operation’s network and information management system, is central for reducing the risk of disruptions. To reduce the risk of disruptions arising, regardless of whether they are unintentional or intended to cause harm, the institutions in the financial sector need to have good capabilities for protecting their operations. In our supervision we have found that, in some cases, financial institutions are less prepared and that they have not built up their resilience to disruptions at the same rate as their operations have become digitalised. The consequences of a disruption can range in severity from individual actors not being able to make transactions because the system is slow, to a total system collapse. In the latter case, it can have an impact on financial stability.

The EU regulation on digital operational resilience (Digital Operational Resilience Act, DORA)[30] entered into force in January 2023, and will begin to apply in the Member States in January 2025. The reason behind the change is that there has been an increased need for regulation and supervision due to growing vulnerabilities to cyber risks and a need for greater regulatory harmonisation. The regulation targets most firms that today fall under FI's supervision. DORA makes greater requirements on managing risk in information and communication technology (ICT)[31], reporting ICT-related incidents, testing digital operational resilience and managing ICT-related third-party risks (also see below). The regulation will entail tightening and harmonising the requirements made on financial corporations' management of cyber risks. The extent of the work needed for the corporations to meet the new requirements differs between the different company types and depends, for example, on the companies' ICT maturity, complexity and the requirements they are currently under.

FI assesses that awareness has generally risen among the institutions and that resilience is becoming stronger. However, it is also clear that some actors have come further than others. In some cases, there is previously neglected IT maintenance that needs to be rectified before the company can take actions to fortify resilience. FI currently sees that most institutions have started analysing and preparing for being able to meet the requirements by the time DORA comes into effect. Continuing throughout 2024, FI will monitor these efforts within our supervision remit.

Outsourcing poses concentration risks

Financial firms are choosing to a larger extent to outsource critical operations to third-party suppliers. By outsourcing, companies can gain access to specialists, such as IT expertise, without having to build up the corresponding competence internally, which can be more efficient, more secure and cheaper. But it also makes new demands of how these companies manage their risks.

As financial corporations are responsible for all their operations regardless of whether they have been outsourced to another actor, outsourcing always requires more in terms of internal governance and control. In addition, outsourcing requires that clear processes and procedures are in place for evaluating and following up agreements with suppliers.

[30] Regulation (EU) 2022/2554 of the European Parliament and of the Council of 14 December 2022 on digital operational resilience for the financial sector and amending Regulations (EC) No 1060/2009, (EU) No 648/2012, (EU) No 600/2014, (EU) No 909/2014 and (EU) 2016/1011.
[31] The acronym ICT is used in the DORA regulation and refers to information and communication technology.

Certain services in the financial sector are only provided by one supplier or a limited few. This means that a small number of suppliers can play an extremely decisive role for many actors on the financial market, especially in terms of operational resilience. In many cases, third-party suppliers themselves outsource parts of their operations, introducing a risk of transparency shortcomings in the supply chain. If operations are outsourced to a third country, the third country's legislation may also apply to those operations.

Individual institutions risk losing control of all operations that are outsourced if there are shortcomings in the supplier's management. For the financial system in general, a risk of disruptions spreading in a way that can have serious consequences for the entire financial sector comes with concentrating critical services to a limited number of suppliers combined with sector interlinkage. This can ultimately be a threat to financial stability.

DORA introduces special rules for managing ICT-related third-party risks (risks that can arise for financial corporations that outsource ICT services to another company). In the new rules, financial corporations are required to prepare a register of all outsourcing and submit it to the supervisory authorities concerned. This gives a better overview and provides more information on the risks financial corporations encounter when outsourcing ICT services. This will enable the supervisory authorities to make clearer requirements.

According to the supervision framework outlined in DORA, EBA, ESMA and EIOPA are the authorities that supervise third-party suppliers of critical ICT services.

Elevated vulnerabilities in financial infrastructure

The financial infrastructure consists of market participants who provide systems for payments, settlement of securities transactions, and management of counterparty risks. Overall, FI sees the vulnerability of financial infrastructure as continuing to be elevated due in part to the residual uncertainty in designing a new payment infrastructure and the uncertainty caused by Nasdaq Clearing's planned divestment of the electricity derivative clearing to European Commodity Clearing (ECC). It is FI's view that vulnerability remains largely unchanged since the spring of 2023.

Important modernisation of payment infrastructure

The capacity to make payments is central for a society to function well and thus, for a society's resilience. After P27 recalled the clearing licence application it submitted to FI, Bankgirot announced that they will continue the work of modernising and ensuring Swedish payment infrastructure. Bankgirot is currently conducting a feasibility study on how to structure the new payment infrastructure so it not only fulfils the needs of the market, but also the legal requirements made on such operations. In this respect, high resilience and a good ability to manage risks are particularly important. More detailed plans are expected in 2024. It is important that banks, as owners, take responsibility for ensuring the stability of the Swedish payment infrastructure. As part of its framework for supervision, FI will regularly monitor these efforts.

Reduced activity on the cleared derivative market

Central counterparties (CCPs) play a key role in the financial infrastructure since they stand as the counterparty, acting as the buyer and seller in a large number of financial transactions. Consequently, CCPs and their members are subject to strict regulatory, financial and operational requirements on their activities. CCPs also use a number of tools and measures, such as netting and margin requirements, to manage risks in the financial system.

Cleared volumes of equity derivatives at Nasdaq Clearing have remained unchanged thus far into 2023 compared with the same period in 2022. On the other hand, the number of cleared equity derivative contracts is significantly lower in 2023. This is explained by rising market rates and increased financing costs for actors on the bond market, resulting in lower issuance activity and a reduced need for risk hedging products, primarily interest rate swaps.

The situation for the members of Nasdaq Clearing's commodity market has improved during the year as a result of lower electricity prices and reduced volatility on the electricity derivatives market, which has led to a reduction in requirements for margin calls. The gas stores and hydro reservoirs in the Nordics are well-filled, reducing the risk of electricity shortages in the coming winter. In addition, in accordance with newly implemented regulation changes, Nasdaq has announced that they are now allowing non-financial counterparties to post unsecured bank guarantees as collateral to reduce the risk of liquidity shortfall if the electricity market should find itself in another situation like last year’s.

However, the turbulence on the electricity market in 2022 led to lower volumes of cleared electricity derivatives in 2023. The turbulence has also led members of Nasdaq to move parts or all of their electricity derivative trading to the bilateral market, or reduce the amount of volumes with secured prices. There is a risk of more moves to the bilateral market if more of Nasdaq’s members choose to not move to ECC after the planned sale of the commodity market[32]. There is a risk of

[32] Nasdaq Clearing has announced that they have agreed with European Energy Exchange (EEX) that EEX will acquire Nasdaq's European power trading and clearing operations. Nasdaq’s existing open positions will be transferred to ECC. Nasdaq accepts both financial and non-financial actors and most power and electricity trading companies as direct members of its commodity market. ECC, on the other hand, only accepts financial actors (banks) as direct members which means that most of Nasdaq's existing members will need

price-setting deterioration and reduced transparency if there in an increase in bilateral trade. There is also a risk that credit risks that are difficult to foresee build up on the market.

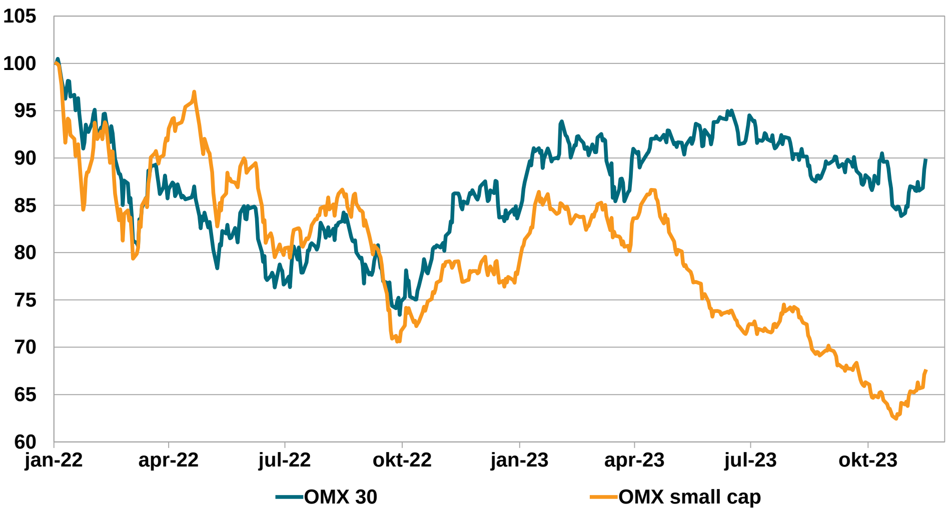
In addition, it may also become more difficult to handle turbulence on the electricity derivatives market in a stressed scenario due to the government guarantee program that was implemented in autumn 2022, extended during spring 2023, and finally expired on 30 September 2023. The guarantee program made it possible to issue credit guarantees for loans for electricity producers.

to sign an agreement with a bank to move and continue clearing their contracts with ECC, or bilaterally secure their prices on the OTC market.

Appendix of diagrams

A1. Stock market development for large and small enterprises

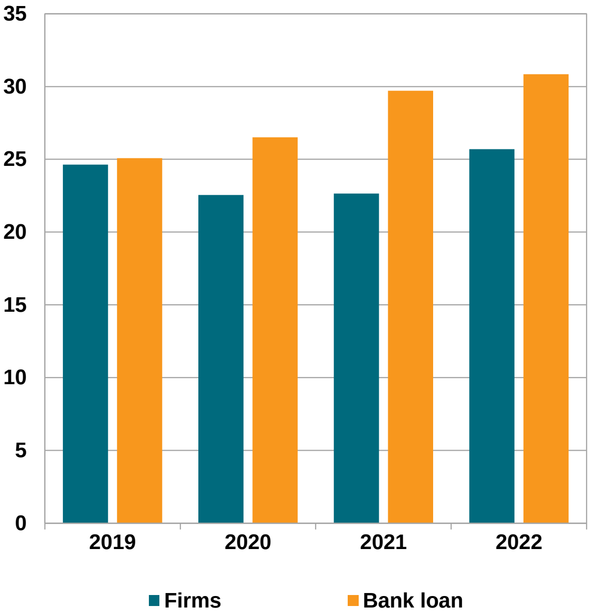
Index 3 January 2022: 100



Source: Refinitiv.
Note: OMX 30 measures the development of the 30 largest listed undertakings and OMX small cap includes undertakings with a market value below EUR 150 million.

A2. Vulnerable CRE firms and their loans

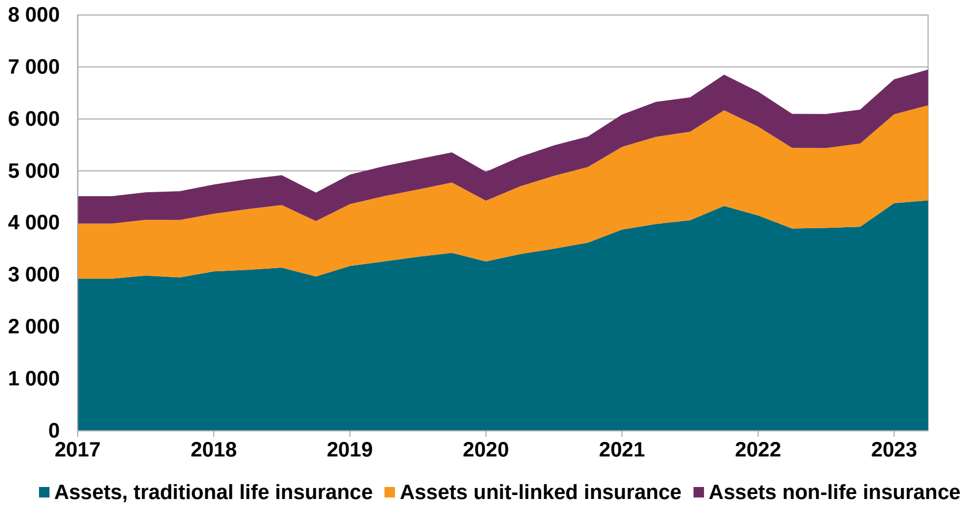
Per cent



Source: FI.
Note: Number of CRE firms and bank loans identified as vulnerable in times of strain, using FI's definition.

A3. Insurance undertakings manage large amounts

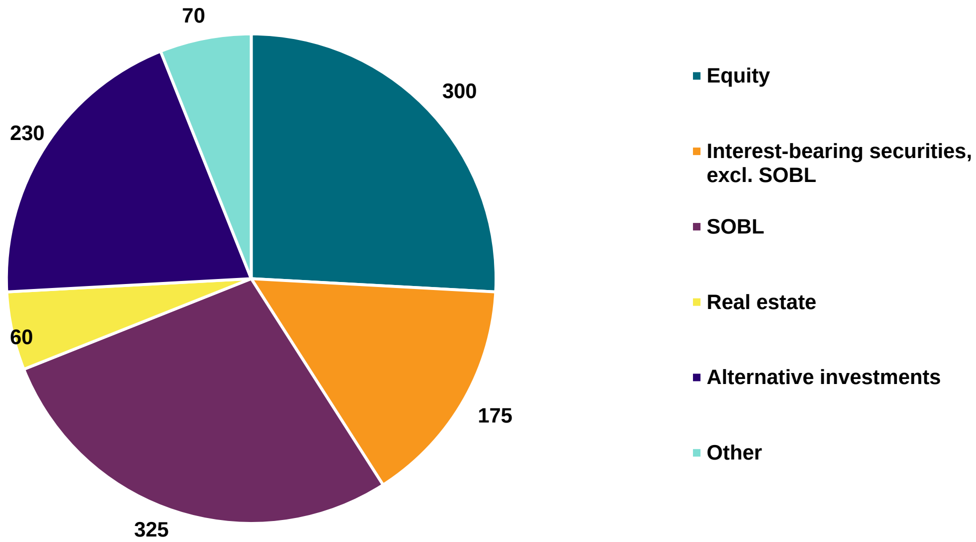
SEK billion



Source: Statistics Sweden.
Note: Insurance undertakings' investment assets broken down into traditional life insurance, unit-linked insurance and non-life insurance. Values through 30 June 2023.

A4. Exposure to the banking sector

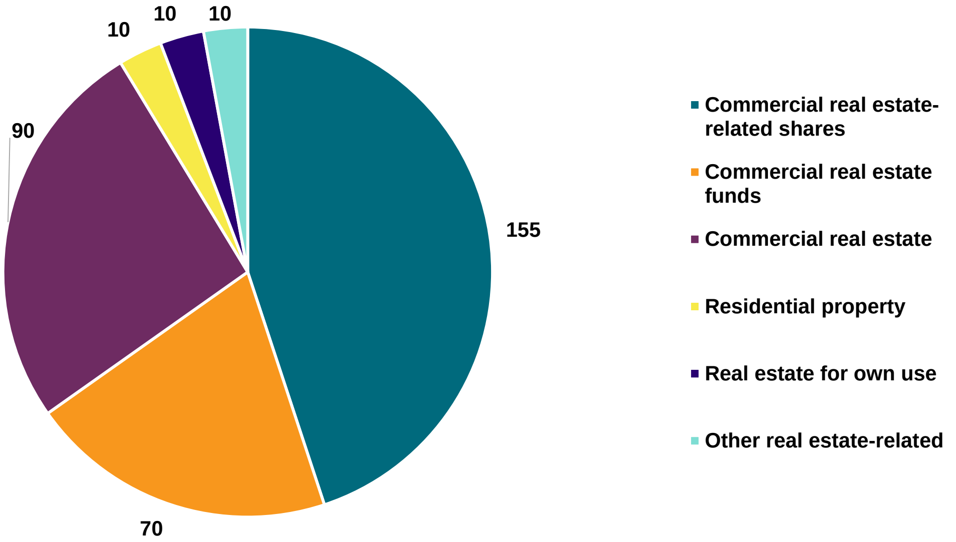
SEK billion



Source: FI.
Note: Life insurance and occupational pension undertakings' exposure to the banking sector, excluding unit-linked and deposit insurance as at 30 September 2023.

A5. Exposure to the CRE sector

SEK billion



Source: FI.

Note: Life insurance and occupational pension undertakings' exposure to the CRE sector, excluding unit-linked and deposit insurance as at 30 September 2023.