Financial Stability Report

2024:2

The Riksbank's Financial Stability Report

The Riksbank's Financial Stability Report is published twice a year. In the report, the Riksbank presents its overall assessment of the risks and threats to the financial system and evaluates the system's resilience to them. The work on the stability analysis is thus directly linked to the Riksbank's task of monitoring the financial system and the objective of contributing to its stability and efficiency. By publishing the results of its analysis, the Riksbank aims to draw attention to, and warn of, risks and events that may pose a threat to the financial system and to contribute to the debate on this subject.

The Executive Board of the Riksbank has discussed the report on two occasions – on 30 October and on 13 November 2024. The report is available on Sveriges Riksbank's website, www.riksbank.se. The report uses data available as at 7 November 2024.

The Riksbank and financial stability

A necessary condition for the economy to function and grow is a well-functioning financial system. To achieve this, the system needs to be able to mediate payments, convert savings into funding and manage risk. When shocks occur, the system needs to be resilient enough to maintain these functions to the highest degree possible. But the financial system is sensitive, as its key elements are vulnerable. For example, banks fund their activities on a short-term basis but lend on a longer-term basis, making them dependent on public and market confidence. If the banks lose the confidence of the general public, serious problems can quickly arise. Moreover, the participants in the financial system are interconnected, for example because they borrow from each other, obtain funding on the same markets or have similar operations. Consequently, problems that arise at one participant, in a market or in a particular system can quickly spread. Problems can spread both directly and via concerns that other participants might also encounter problems.

A crisis in the financial system risks leading to significant economic costs. The importance of the financial system, combined with its vulnerability, means that the state has a particular interest in preventing threats to financial stability. Banks and other market participants do not themselves have any incentive to take full account of the stability risks they may pose. Despite preventive measures, a crisis can occur. The state may then need to intervene, which, in such an eventuality, should be done at the lowest possible cost.

Under the Sveriges Riksbank Act, the Riksbank must contribute to the stability and efficiency of the financial system. A core task is therefore to oversee the financial system. This includes identifying risks of serious disturbances or significant efficiency losses, assessing whether the financial system is stable and efficient, and reporting its assessments. The Riksbank also has the special task of overseeing the financial infrastructure and other operations that are of particular importance for it. Twice a year, the Riksbank gives an account of its analyses and assessments of the stability and efficiency of the financial system in its Financial Stability Report.

The Riksbank also has important tasks related to the provision of liquidity in the event of a financial crisis. To counteract a serious shock to the financial system in Sweden, the Riksbank is able to offer liquidity support to one or more financial companies or markets. Oversight of the financial system is also essential for the Riksbank to be able to act quickly and efficiently in the event of a financial crisis.

The Riksbank shares responsibility for the stability and efficiency of the financial system with the Ministry of Finance, Finansinspektionen (the Swedish financial supervisory authority) and the Swedish National Debt Office. The interplay between the authorities is vital both in preventive measures and in any crisis management. Cooperation with authorities in other countries is also important as financial undertakings are often cross-border in nature.

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Stability risks have declined in the short term but there is considerable uncertainty abroad. Short market interest rates in particular have fallen, while long market rates have been volatile. Risk premiums have continued to fall and the credit market has developed strongly. However, unexpected events may cause market turbulence. Periods of optimism and low pricing of risk can also lead to a renewed build-up of risk. In addition, geopolitical uncertainty is high and public finances are weak in many countries.

Macroprudential measures safeguard household resilience. Without these measures, households would not have been as resilient and systemic risks associated with household mortgages would have been greater. With interest rates now falling, there is a risk that household indebtedness will increase rapidly again. Improving the functioning of the housing market will primarily require fiscal and structural policy measures. In the absence of such measures, however, it is particularly important to have appropriate macroprudential measures in place to counteract unhealthy developments going forward.

The property companies' funding situation has improved but the rental market poses a risk. The funding situation is more favourable partly because bond funds have increased their purchases of property companies' bonds. However, rising vacancies and weak rental growth continue to challenge some property companies. Vulnerable property companies therefore need to continue to strengthen their balance sheets. To strengthen confidence, the transparency of transactions and property valuations should also be improved.

Corporate bond funds should implement liquidity management measures. Funds are increasingly important for the supply of capital to companies. However, many of them lack sufficient liquidity to handle large redemptions from their unit holders. This could impair the functioning of the bond market, as happened in 2020, which could have negative consequences for financial stability. Therefore, among other things, funds need to introduce liquidity management tools such as adjusted sale and redemption prices (swing pricing). The Riksbank also welcomes the European Commission's consultation on a macroprudential framework for non-banks.

The resilience of the major Swedish banks is good but there are risks for consumer credit banks. The major banks remain highly dependent on other countries and have large exposures to commercial property. But their profitability is good and loan losses are small. In contrast, consumer credit banks continue to have high levels of loan losses, which may partly be due to the inadequacy of their credit assessments. These should be strengthened to ensure the debt-servicing ability of new borrowers. Similarly, there is a need for better information on all loans of borrowers.

An uncertain world entails cyber risks, which places demands on market participants. The cyber threat remains significant and is amplified by the heightened geopolitical risks. Cyberattacks, as well as technical errors, can give rise to risks associated with third-party dependencies. It is important that market participants subject to the Digital Operational Resilience Act (DORA) comply with the requirements swiftly and that important participants not subject to the act strive for the same level of resilience.

1 Overall stability assessment

1.1 Reduced risks in near term but there is considerable uncertainty

Since the publication of the previous Financial Stability Report in May, both policy rates and market rates have fallen globally. In particular, short-term market rates have fallen, mainly driven by lower policy rates and expectations of further cuts. Long-term market rates have partly followed suit but have shown considerable volatility during the autumn. Lower interest rates and optimism about an economic soft landing have led to increased risk-taking in financial markets. Financial asset prices have risen and stock markets are generally at historically high levels. The credit market has also developed strongly, which has resulted in increased availability of capital and a lower pricing of credit risk. These developments have made things easier for the capital-intensive parts of the economy and helped to reduce near-term stability risks.

During periods characterised by optimism and low pricing of risk, there can be a build-up of risk in the financial system. This is particularly the case if favourable credit market conditions also lead to increased indebtedness and risk-taking, rather than lower risks in sectors that are highly leveraged. It can also mean that the pricing of different assets is based on overly optimistic expectations, which can result in unexpected events causing large market movements. The market turbulence observed in early August is a good illustration of this (see box “Closure of carry trades caused turbulence”).

There is still uncertainty about how the global economy will develop and how economic policy will be shaped. The geopolitical situation is also a risk factor. If current events worsen, it could lead to poorer real economic developments, higher inflation and greater volatility in financial markets.

In addition, the high levels of public debt in many major European countries and the United States are making the global economy vulnerable. It is difficult to assess how large a country’s public debt can be before it creates problems for financial stability. But high levels of debt could mean that the room for manoeuvre for these states is limited in a situation where large investments are necessary, for example to increase defence capabilities, to adapt to meet climate goals or to strengthen competitiveness. In addition, uncertainty about what economic policies will be pursued in large and important countries with high levels of debt, the United States in particular, may lead to interest rates remaining volatile.

1.2 Macroprudential measures are reducing systemic risks associated with household debt

The Swedish economy is in a mild recession and the economic recovery looks set to take slightly longer than expected. Household finances and debt-servicing capacity are

expected to strengthen going forward as a result of real wage increases, lower interest rates and a more expansionary fiscal policy. However, household interest expenditure will be at a higher level than before the rise in inflation and interest rates.

Most mortgagors have had good conditions for servicing their loans. However, households have reduced their consumption as personal finances have become more strained. The combination of amortisation requirements, the mortgage cap and banks' credit assessments has safeguarded household resilience. Without these measures, households would have been less well equipped to manage the rapid rise in inflation and interest rates.

From a stability perspective, it would be desirable for household borrowing to grow more slowly than, or at least in line with, their disposable income. If macroprudential measures become less strict, this could lead to a resumption of rapid growth in both housing prices and household indebtedness, particularly given that interest rates are now becoming lower. Such a development could entail a renewed increase of the risks to macroeconomic stability and ultimately also financial stability. This is not sustainable in the long term. Structural and fiscal measures are needed to address these fundamental problems and thus improve the functioning of the housing market. Over the long term, such a policy would also favour those who want to enter the housing market. However, in the absence of such measures, it is particularly important to have macroprudential measures in place to counteract unhealthy developments. Read more about this in the article "Macroprudential policy has safeguarded household resilience".

1.3 Good resilience among the major Swedish banks but increased risks for consumer credit banks

Consumer credit banks' loan losses remain high

Overall, the major Swedish banks have high profitability and meet the formal capital and liquidity requirements by a good margin. Their resilience is good, although exposure to commercial property in particular poses a risk. This may make the banks vulnerable in certain adverse macroeconomic scenarios. However, the situation is different for consumer credit banks, which may be systemically important as a group even though they are smaller than the major banks. The consumer credit banks incur higher loan losses and have lower profitability than the major banks. These problems may partly be due to the fact that many households with small margins have received consumer loans that exceeded their ability to pay, and have experienced payment problems when their personal finances became more strained. Both the number of people being directed to the Swedish Enforcement Authority and the total debts have increased. Around 40 per cent of debts with the Swedish Enforcement Authority are assessed to consist of consumer credit. Both Finansinspektionen and the Riksbank have previously pointed out that the credit assessment for such loans may be deficient. It is important that the institutions issuing consumer credit improve their credit assessment, thereby ensuring that borrowers are able to repay their loans. For this, better information on all borrowers' credits is necessary.

Consumer credit banks are also generally more dependent on deposits as a source of funding than the major banks. For some of the consumer credit banks, deposits are largely sourced through various deposit platforms, and are therefore potentially more flighty than other deposits. Finansinspektionen has therefore clarified that this type of deposit – within the framework of the liquidity rules – is to be considered more volatile than ordinary deposits. The Riksbank considers that Finansinspektionen's clarification will contribute to improving the banks' resilience.

Some banks have large concentrations in their deposits

The Riksbank's analysis shows that some banks have a large concentration in their deposits. This is particularly true for some major banks and securities-trading banks. This high deposit concentration means that a relatively large share of the bank's deposits comes from a limited number of customers or from a specific type of depositor. For some banks, the deposits of the 50 largest depositors represent all or almost all of the bank's liquidity buffer. The likelihood of sudden and large withdrawals is higher for banks with high deposit concentrations. The banking turmoil in the United States in 2023 highlighted the risk associated with bank deposits. Experiences from this period suggest that risks associated with deposit concentrations may have been underestimated.

Banks in the EU must comply with the European Capital Requirements Regulation, which in turn is based on the global Basel standards. This also applies to the liquidity rules. The buffer requirement for high-quality liquid assets is designed to cover various outflows from the banks in a stressed scenario. Deposits classified as more flighty generally increase the buffer requirement. However, the classification does not take into account liquidity risks related to concentration in the deposits. It is therefore important that there is a discussion at the global level on how regulation and supervision of banks can better take these risks into account. Read more in the box "Concentrations in Swedish banks' deposits".

1.4 Rising risks associated with non-banks and the market funding of non-financial companies

Vulnerable property companies should strengthen their balance sheets

Both banks and non-banks have large exposures to the property sector. Although financial risks have gradually decreased in 2024, the large loans of property companies still pose a structural risk to financial stability. Interest rates have fallen but the level of interest rates will remain at a higher level than before the rise in interest rates. Some property companies remain vulnerable and should continue to take measures to strengthen their balance sheets. In addition, the rental market has continued to weaken somewhat, particularly for offices. This poses a downside risk to current property values. From a stability perspective, it would be healthy for the sector as a whole to reduce its risk-taking and increase its resilience.

It is also important to improve the transparency of companies' property valuations and transactions. On one hand, companies need to explain more clearly the assumptions on which the valuations are based and, on the other, the information about the transactions needs to be more detailed. More transparency is favourable to the pricing of risk and thus to financial stability. In light of this, it is positive that Finansinspektionen has taken the initiative to improve the information records in connection with transactions.

Although the risk-taking, interest-rate sensitivity and need for market funding of property companies has been well known, rating agencies were slow to adjust their assessments when interest rates started to rise. The downgrades of some property companies were rapid and sometimes occurred in several steps over a short period of time. This may indicate that rating agencies' methodology is not robust and lacks transparency but also that, before the rise in interest rates, it was too easy to obtain an investment grade rating. As market funding has become increasingly important for companies, it is important that credit rating agencies review their methodologies to make ratings more robust. This is all the more important given that credit ratings will play a greater role when the revision of the European Capital Requirements Regulation enters into force in January 2025.

Corporate bond funds need to introduce liquidity management measures

The funding situation for non-financial companies has continued to improve. For example, more property companies are once again turning to the capital markets for funding alongside the banks. However, the growing importance of funds in the supply of capital to the real economy is increasing the vulnerability of companies' market funding. This is particularly the case for property companies, where Swedish funds have bought 60 per cent of their newly issued bonds so far in 2024.

Many corporate bond funds lack sufficient liquidity to handle large redemptions from their unit holders, creating an imbalance between the fund's assets and liabilities. This may lead to liquidity-driven sell-offs and periodically severely impair the functioning of the corporate bond market. This happened during the market turmoil in March 2020 during the outbreak of the coronavirus pandemic. The banks then bought some of the bonds that the funds needed to sell but quickly reached the limit as to how much risk they were willing to take. At the same time, the Riksbank launched several measures, partly to maintain the supply of credit to companies. It is important to strengthen resilience in order to avoid the Swedish corporate bond market once again suffering major disruptions in the event of stress.

Funds that lack sufficient liquidity to handle large redemptions therefore need to urgently strengthen their liquidity situation. This can be done, for example, by increasing the proportion of liquid assets or by better customising the frequency of redemptions offered to unit holders. It can also be done by introducing other relevant liquidity management tools. In Sweden, adjusted sale and redemption prices (swing pricing) are available, which few funds have introduced so far. The reformed EU directives, which mainly govern fund legislation, will impose higher requirements on funds to use

liquidity management tools.[1] Work is currently under way to implement the directives in Swedish law.[2] The Riksbank considers that funds that lack sufficient liquid assets should immediately apply to introduce an adjusted sale and redemption price instead of waiting for mandatory regulation.

Priority to get macroprudential framework for non-banks in place

International work is under way to develop a macroprudential framework for non-banks at the EU level. Such a framework is important as it can reduce vulnerabilities in the non-bank sector and thus contribute to strengthening financial stability.[3] The Riksbank therefore welcomes this work, which is still at an early stage. The European Commission currently has a consultation out for circulation. One aim is to obtain views regarding the business models and risks of non-banks, their supervision and the interconnectedness of non-banks with each other and with the rest of the financial system, in particular with the banking sector. The consultation will inform EU policy work in this area in the coming years.

1.5 Higher operational risks place demands on market participants

The DORA regulation needs to be implemented urgently

The cyber threat remains significant and is amplified by the heightened geopolitical risks. At the same time, interconnections between key financial players and providers of certain services are increasing. Over the past year, several IT incidents have highlighted the risks associated with third-party dependencies. Concentration risks have become apparent, as has the risk of domino effects.

It is therefore important that market participants subject to the DORA regulation comply with its requirements without delay. The requirements it places on companies in the area of IT include the ability to manage risks, report incidents and test their systems. The companies must also be able to manage risks associated with third-party suppliers.[4] It is of great importance that the participants that are not covered by the regulation but that are important for the financial system, such as Getswish, Finansiell

[1] Refers to the UCITS and AIFM directives. In addition to providing fund managers with effective liquidity tools and strengthening investor protection, the directives aim to further harmonise fund regulations across the EU.

[2] See Committee terms of reference from the Ministry of Finance "Ett moderniserat regelverk för att stärka konkurrenskraften och motståndskraften på svensk fondmarknad" [A modernised regulatory framework to strengthen the competitiveness and resilience of the Swedish fund market], Dir. 2023:163, December 2023.

[3] See news item "Commission launches consultation on macroprudential policies for Non-Bank Financial Intermediation", May 2024, European Commission.

[4] DORA will apply from January 2025 and will apply to most financial players in the EU. It includes requirements to strengthen their oversight, resilience and risk mitigation efforts regarding third-party dependencies. They are required to examine how neighbouring systems, services and processes may be affected in the event of a disruption and how the impact can be minimised. It is also essential to have a business continuity plan. There is also a requirement for clear contracts with third parties, with the right to audit operations and set requirements around supplier incident reporting. The players must also have an exit strategy that can be used in the event that cooperation with a supplier must be terminated, for example if a foreign power purchases the supplier.

ID-Teknik, Bankgirot and RIX, also examine the requirements of DORA and strive for the same level of resilience. As DORA does not address all third-party risks in the financial sector, it is also important to continue to work preventively and detect unknown third-party dependencies. This can be done, for example, through crisis exercises or various types of stress tests simulating the loss of services. Read more in the box “Third-party risks in a more digital and interconnected financial sector”.

Market participants need to contribute to the modernisation of financial infrastructure

For a long time, the Riksbank has been pointing out that the Swedish payment and securities markets need to be future-proofed. This is part of the reason why the Riksbank has decided to proceed with the process of connecting Sweden’s payment settlement service, RIX-RTGS, to the Eurosystem’s T2 platform. The Riksbank has started internal preparations to be able to start contract negotiations with the Eurosystem at the beginning of 2025. Joining the T2 platform will mean that the Riksbank’s support system needs to be adapted and that the Riksbank’s technical system needs to be developed further. With the Eurosystem as the supplier of the application and operations, the Riksbank will be better placed to ensure a robust, stable and efficient payment settlement system in the long term.

Bankgirot has intensified the development of a future solution for retail payments. To prevent the payment system being affected, it is necessary for the availability of the existing system to be ensured while the new one is under development. Bankgirot’s owners have provided capital but need to continue to ensure that Bankgirot has sufficient resources to fulfil its mission and continue with the change process. The Riksbank takes a positive view of Bankgirot’s development efforts. However, the participating banks also need to ensure that they prepare their own systems and operations for a transition to the new Bankgirot solution.

Going forward, it is planned that securities settlement in Swedish kronor will join the Eurosystem’s securities settlement platform, T2S. It is very important that market participants take joint responsibility for the necessary harmonisation work for the new platform and that it is carried out in good time. This work has started and it is vital that there is cooperation to reduce the risk of delays. It is also important that market participants ensure that the current functions can be used during the transition to the new platforms.

2 The macrofinancial situation

Inflation has continued to fall and many central banks have cut their policy rates. Expectations of further interest rate cuts and gradually increasing growth have led to lower short-term market rates and low risk premiums in financial assets. This has helped to reduce risks in indebted parts of the economy in the short term. At the same time, macroeconomic uncertainty has increased and market rates remain volatile. Geopolitical risks have further increased and could quickly change the conditions for the real economy. Weak public finances and uncertainty about economic policies in many large countries also pose a risk to financial stability. For example, long-term market interest rates have risen during the autumn. They may both rise more and remain volatile if uncertainty remains or there is a lack of credibility on how to stabilise the debt trend.

2.1 Risks are decreasing in the short term but vulnerabilities are building up

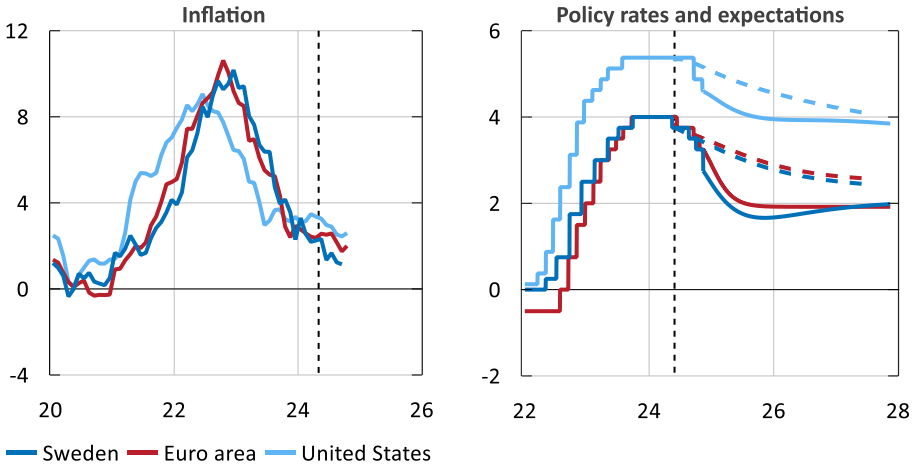
Expectations for faster normalisation of monetary policy

Inflation has continued to fall and concerns that it would remain high have subsided (see chart 1, left). As a result, most major central banks have cut their policy rates. In September, the Federal Reserve cut the federal funds rate for the first time in four years, cutting the rate by 75 basis points in total. In Europe, the European Central Bank (ECB) and the Riksbank cut their policy rates on several occasions in the summer and autumn. Following the most recent cut of 50 basis points, the Riksbank has cut the policy rate by 125 basis points since May 2024. Although several central banks have started to lower interest rates, monetary policy remains tight.

As a result of these developments, the market now expects interest rates to normalise more quickly than when the previous Financial Stability Report was published (see chart 1, right). However, expectations of cuts have varied considerably, driven mainly by individual statistical outcomes and central bank communication. Recently, weaker European data and the US presidential election in particular have affected expectations.

Chart 1. Inflation and policy rates

Annual percentage change



Note. The chart on the left refers to the CPIF for Sweden, the HICP for the euro area and the CPI for the United States. The dashed vertical line marks the date of publication of the previous Financial Stability Report. The chart on the right shows central bank policy rates and market-based expectations according to forward pricing. Solid lines refer to 12 November 2024, while dashed lines refer to the time of publication of the previous Financial Stability Report.

Sources: Eurostat, national central banks, Statistics Sweden, US Bureau of Labor Statistics and the Riksbank.

Lower but volatile market rates

In particular, short-term market interest rates have declined since the previous Financial Stability Report. This has been driven mainly by cuts in policy rates and expectations of further reductions (see chart 2, left). Long-term market rates have partially followed suit, but have shown considerable volatility during the autumn (see chart 2, right). In particular, US long-term yields have moved the most, with the 10-year yield largely back to the same levels as in the spring.[5] As a result, 10-year market rates are currently higher than rates with 2-year maturities. This means that yield curves are once again positive after more than two years with a negative slope. However, term premiums are still low from a historical perspective.[6]

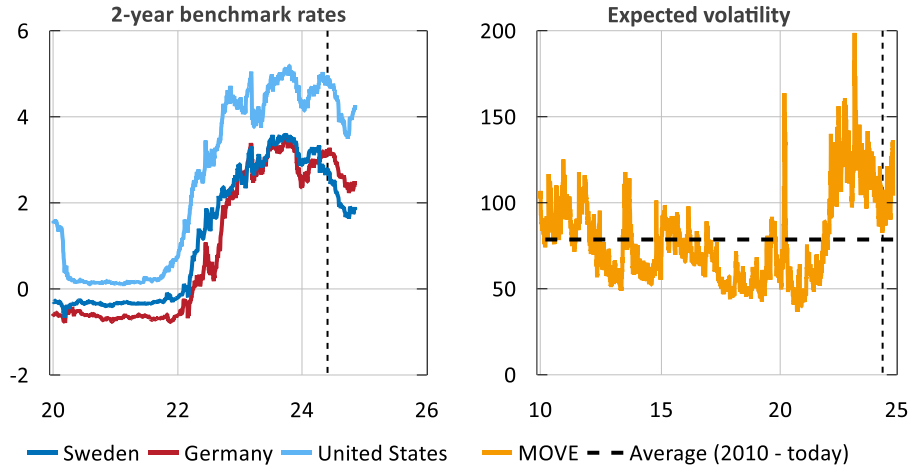
The lower interest rates have contributed to reduced short-term stability risks and to optimism in the financial markets. At the same time, uncertainty about both the macroeconomy and economic policy is particularly high after the US election. Continued high volatility in market rates could reduce risk appetite and increase risk premiums in financial assets and ultimately hamper an economic recovery.

[5] See Appendix chart A.1, right.

[6] See Appendix chart A.1, left.

Chart 2. Government bond yields and expected bond market volatility

Per cent, index



Note. The dashed vertical line in both graphs marks the date of publication of the previous Financial Stability Report. The chart on the right shows expected volatility in the US bond market based on option pricing.

Sources: Macrobond, US Department of Treasury, ICE BofAML and the Riksbank.

Low risk premiums on equities and credits increase the risk of corrections

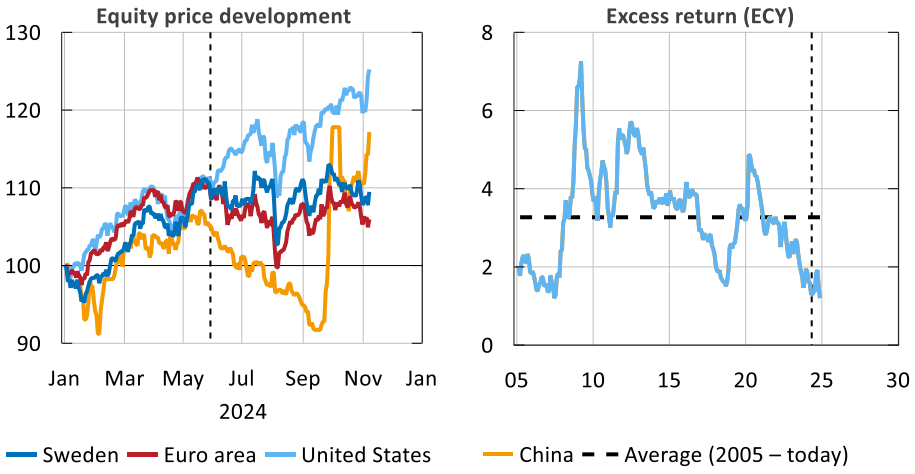
Optimism over a successful soft landing of the economy and expectations of increased profits associated with rapid technological developments in AI have led to high risk-taking in the financial markets. Several measures indicate stock markets in general are valued at historically high levels. This is particularly true for the US stock market, which has continued to perform strongly since the spring (see chart 3, right). Stock markets in Sweden and the euro area have been slowed by weaker economic activity and share prices have moved in more of a sideways direction since the publication of the previous Financial Stability Report in May. But they are still close to their historically highest levels (see chart 3, left).

High valuations combined with increased risk-taking imply a greater risk of volatility if conditions on the market change. One example of this was the severe market turbulence in early August. This arose in particular in equity markets when investors needed to close positions quickly in risky investment strategies (see the box “Closure of carry trades caused turbulence”).

In China, the world’s second largest economy, stock market performance has, until recently, been characterised by a deep slump due to the ongoing property crisis. However, the stock market showed a powerful upturn after the Chinese authorities announced a variety of stimulus measures to boost demand and achieve growth targets. It is not yet clear whether this will be successful and what impact it might have on the rest of the world. However, other major stock exchanges have also reacted favourably to the news

Chart 3. Share price developments and share valuation measures

Index, 01 January 2024 = 100, percentage points



Note. The chart on the left refers to OMX Stockholm PI for Sweden, EURO STOXX for the euro area, S&P 500 for the United States and Shanghai Composite Index for China. The chart on the right refers to the Excess CAPE Yield (ECY), which is a stock valuation measure based on the US S&P 500. It is calculated as the inverse of Robert Shiller's cyclically adjusted P/E ratio (CAPE), the so-called earnings yield, minus the 10-year real government bond yield. The dashed vertical line marks the date of publication of the previous Financial Stability Report.

Sources: Nasdaq OMX Nordic, STOXX, S&P Global, Shanghai Stock Exchange and Robert Shiller (Macrobond).

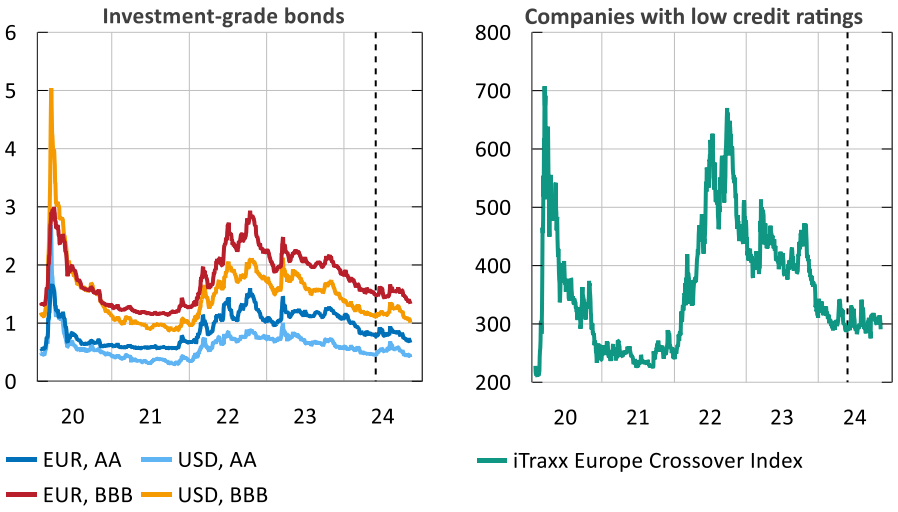
The credit market has continued to develop strongly since the previous Financial Stability Report, and additional capital has been allocated to riskier assets such as corporate bonds (see chart 4). An increased supply of capital to the asset class has led to lower risk premiums but also to companies being able to issue larger volumes of bonds. Companies' funding costs have also fallen as central banks have lowered their policy rates and market rates have fallen. This development has helped the capital-intensive parts of the economy. For example, indebted property companies have again found it easier to obtain funding on the capital markets both in Sweden and in Europe. This has reduced their refinancing risk despite ongoing challenges such as high vacancy rates for office properties.

The favourable conditions in the credit market have reduced stability risks. However, during periods characterised by optimism and low risk premiums, there may be a renewed increase in indebtedness, rather than a healthy reduction of risks in the more highly leveraged companies. For example, there is still uncertainty about when the global economy will recover. Underlying credit risk in Europe also remains elevated following a period of high interest rates and weak demand in many sectors. One sign of this is that the number of downgrades for major companies with high credit risk still outnumbers the number of upgrades, according to statistics from the credit rating agencies Moody's and S&P.[7]

[7] According to data from Bloomberg. Refers to companies with high yield in western Europe.

Chart 4. Risk premiums for European and US companies

Percentage points, basis points



Note. The chart on the left shows the yield spread between 5-year investment grade corporate bonds and the corresponding government bond yields. The chart on the right is an equal-weighted index showing the yield spread between the 5-year credit default swaps of 75 European companies rated lower than investment grade and the corresponding swap rate. The dashed vertical line marks the date of publication of the previous Financial Stability Report.

Sources: Bloomberg, Macrobond, US Department of Treasury and the Riksbank.

BOX – Closure of carry trades caused turbulence

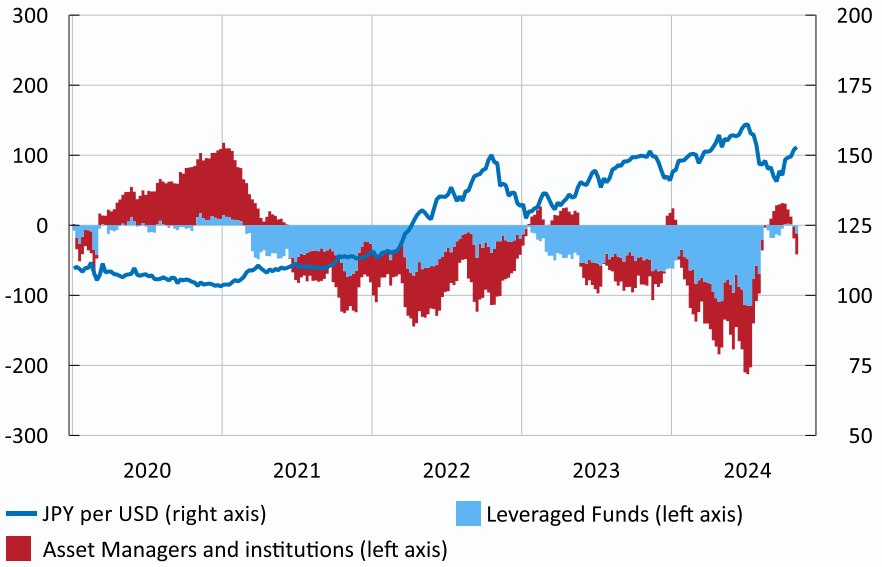
Carry trade is an investment strategy which involves an investor borrowing money in a country with a low interest rate and investing it in a country with a higher interest rate. The investor can thus make money from the resulting interest rate differential. The arrangement yields a positive return provided that the low-interest loan currency does not appreciate by more than the size of the interest rate differential for the period. In practice, most carry trades are made in the foreign exchange derivatives market (futures, forwards) which allows the investor to take larger positions with less capital. This increases both the return potential and the risks. For example, it has been advantageous for some time to conduct carry trades by borrowing Japanese yen at a low interest rate and investing in US dollars at a much higher rate.

In early August, the market was taken by surprise when the Bank of Japan unexpectedly raised its key interest rate. Almost at the same time, market expectations of faster interest rate cuts by the US Federal Reserve increased when unexpectedly weak US labour market statistics were published. As a result, the Japanese yen strengthened sharply against the US dollar. This was also reinforced by investors quickly exiting carry trades and other risk positions to meet increased security requirements and avoid losses (see chart 5). This caused major turbulence in the financial markets, with high volatility and sharp falls in several stock market indices. The biggest movements were in Japanese stock indices, where the Nikkei fell more than 12 per cent in one

day. However, highly valued US technology companies were also hit hard. The turbulence subsided relatively quickly, though, and the stock markets recovered once investors had completed the necessary risk adjustments. The events had no lasting impact on the market this time. However, the events show how high risk-taking in financial markets can cause large price movements when risk appetite changes rapidly and how quickly these can spread to global financial markets.

Chart 5. Positions in yen and dollar-yen exchange rate

Number of thousands of contracts, number of yen per USD



Note. The chart shows reported net positions in futures and options in Japanese yen. Positive values in the number of contracts mean that asset managers and institutions or funds are net owners (long position) of yen via futures and options. Negative values mean that they have net sold yen (short position).

Sources: Commodity Futures Trading Commission (CFTC) and Macrobond.

2.2 Considerable uncertainty abroad poses significant risks

Uncertain macro and geopolitical outlook

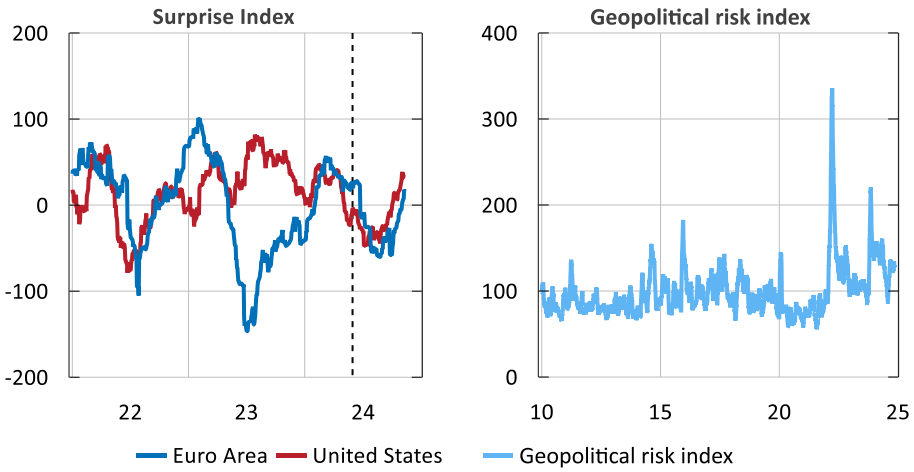
There is still considerable uncertainty surrounding the development of the real economy. To a large extent, the economic statistics received since the summer have surprised negatively compared to expectations (see chart 6, left). Any major deviation from expectations could cause volatility in the financial markets. These could be further signs of a weakening of economic activity in Europe, or a rise in US market interest rates on the back of strong economic data or expectations of increased borrowing needs. The market's expectation of a successful soft landing and further cuts in policy rates could then change to a more negative scenario that is not matched by the low risk premiums that apply today.

In addition, geopolitical uncertainty remains high due to wars and military conflicts (see chart 6, right). In both the short and the long term, increased geopolitical risks

are a source of uncertainty that could delay the recovery in the economy, increase inflation and cause significant price adjustments in financial assets.[8]

Chart 6. Surprise index and geopolitical risk index

Index



Note. The chart on the left refers to the Citigroup Economic Surprise Index. It is based on weighted historical standard deviations of differences between outcomes of economic statistics and Bloomberg surveys. The weights depend on the effect the news had on the foreign exchange market. A value below zero means that economic conditions are generally worse than market expectations. The chart on the right refers to the Geopolitical Risk Index, 30-day moving average. The index is based on the number of newspaper articles in ten different US newspapers covering eight different geopolitical risk categories, such as the threat of war and terrorism. The dashed vertical line marks the date of publication of the previous Financial Stability Report.

Sources: Citi and Matteo Iacovuello (Macrobond).

The geopolitical uncertainty also means that trade can be forced to take new routes as tensions between countries and political blocs increase. Russia's invasion of Ukraine and the ongoing trade conflict between the US and China have led to less globalisation and more geoeconomic fragmentation. To protect their own interests and preparedness in a more polarised world, many countries have also seen an increased need to reduce dependence on trade with countries perceived to pose a security risk.

The situation could be further exacerbated if the new US administration implements a more aggressive trade policy with generalised tariffs and duties. This risks raising inflation, hampering trade and increasing transatlantic tensions. If such measures are implemented on a large scale, market interest rates may rise and financial assets may fall in value if risk premiums increase.

[8] Several market participants consider that the main risk factor that could negatively affect the Swedish financial system in the future is geopolitical factors in the form of war and cyberattacks. See *Financial Markets Survey*, November 2024, Sveriges Riksbank.

Part of the geopolitical uncertainty concerns cyber attacks and the spread of disinformation. The rapid spread of information via social media can be destabilising for individual institutions but also for the financial system as a whole. During the banking turmoil in the United States in 2023, rumours that spread on social media contributed to unusually fast withdrawals.[9] As the financial system becomes increasingly digitalised and interconnected and financial actors become more dependent on critical service providers, third-party dependency also increases. This increases the risks of cyber attacks. Third-party dependency can also imply vulnerabilities without the existence of an antagonist. Incidents such as the Crowdstrike update problem illustrate this (see the box "Third-party risks in a more digital and interconnected financial sector").

BOX – Third-party risks in a more digital and interconnected financial sector

Since the early 2000s, outsourcing has emerged as an alternative to organisations having their own data centres, proprietary software and in-house expertise. Examples include traditional outsourcing, the use of code libraries, traditional products now being offered as SaaS solutions[10] and companies moving their operations to the cloud. When using services and products that are not under their own control, companies expose themselves to third-party risks, which can take the form of concentration risk and the risk of domino effects.

Concentration risk arises when many companies use the same supplier. This risk has increased in connection with a few players having become dominant in a limited market, offering highly specialised products such as cyber software or derivatives trading tools. One example to illustrate concentration risk is the cyber attack against TietoEvry in January 2024, when a malicious attacker attempted to cause damage and disrupted the operations of several of the company's customers. Another example is the Crowdstrike update issue, where problems with an update in July 2024 inadvertently led to widespread global disruption across multiple sectors and affected several large international banks.

There is also a risk of *domino effects* if a service is used as a critical tool in a centralised process. This was something that took place during the cyber attack on ION Group in February 2024, which affected derivatives trading at several companies, leading to major disruptions in the financial market. Although all of these incidents had relatively little impact on Swedish financial agents, the incidents show that there is a risk that Swedish financial stability could be affected.

[9] See *Depositor Behaviour and Interest Rate and Liquidity Risks in the Financial System: Lessons from the March 2023 banking turmoil*, October 2024, Financial Stability Board.

[10] Software As A Service (SaaS).

Increased climate risks and technology shifts

The ongoing climate change and the necessary transition to a more sustainable economy also pose challenges to financial stability. As natural disasters and extreme weather events have become both more frequent and more severe, the cost of climate-related damage to insurers has increased significantly and is expected to continue to rise in the future. To limit the risks, some insurers have therefore stopped providing certain types of insurance for such claims.[11] This trend risks undermining the fundamental role of insurance companies and negatively affecting both the real economy and financial stability. If insurance no longer covers climate-related damage, the ability of households and companies to recover will be reduced. This would also lead to increased credit risks for the banks, as the value of collateral for lending may deteriorate or disappear altogether. In addition to direct material damage and loss of life, increased climate-related damage affects everything from ecosystems and agriculture to infrastructure and tourism, potentially impacting entire countries' economies and financial markets.

The technological shifts needed for the green transition are also associated with risks. For example, Europe's important automotive industry is in a challenging position as it switches production to electric cars to meet EU climate targets. This has meant not only higher costs, but also lower revenues as consumers have been hesitant. Moreover, a substantial increase in the supply of cheap electric cars from China has led the EU to decide on tariffs to protect the competitiveness of the European car industry. On the other hand, a slower green transition, with delayed or insufficient action to mitigate climate change, increases climate risks in the longer term and may force a more disorderly transition that could be even more challenging and risky.[12]

Reduced room for manoeuvre in public finances

Global public debt is very high, being expected to exceed 93 per cent of global GDP in 2024 and to continue to rise thereafter.[13] Several large and important economies, such as the United States, France, Italy, Spain and the United Kingdom, already have public debts exceeding 100 per cent of GDP (see chart 7, left). Their current budget deficits risk increasing the debt levels further. It is difficult to assess how large a country's public debt can grow before it creates problems for financial stability. Moreover, if confidence in a country's ability to manage its debt is damaged, interest costs can increase further and cause a negative spiral if the situation is not stabilised. The International Monetary Fund (IMF) also points out that uncertainty about the debt situation of large and important countries and their fiscal and monetary policies can increase the volatility of other countries' government bonds and raise their interest costs. Large public debts in key economies are therefore becoming a vulnerability for global economic stability.

[11] See, for example, "Policy options to reduce the climate insurance protection gap", *Joint Discussion Paper*, April 2023, ECB and EIOPA.

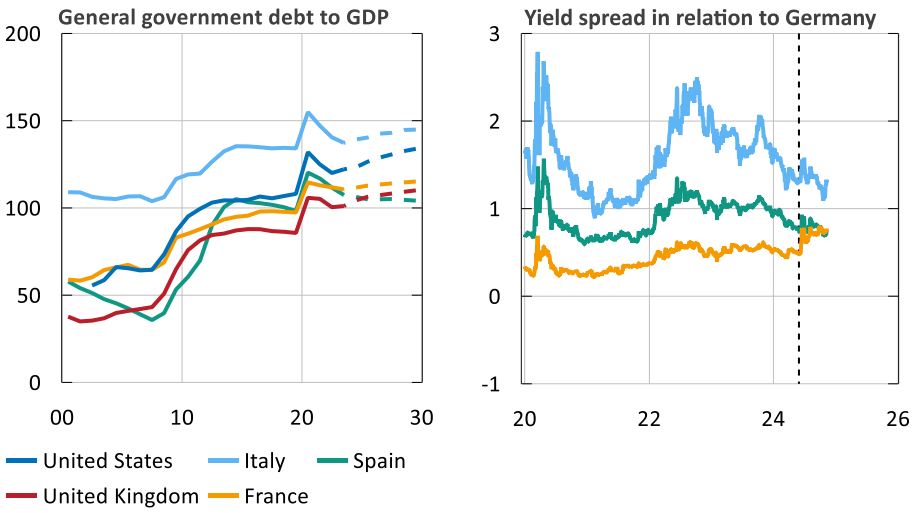
[12] See *Risks from misalignment of banks' financing with the EU climate objectives*, January 2024, ECB.

[13] See "Putting a Lid on Public Debt", *IMF Fiscal Monitor*, October 2024, IMF.

Total public debt in the EU stood at just under 88 per cent of GDP in 2023, which is lower than the corresponding figure for the United States of just over 118 per cent.[14] However, the euro area faces the challenge of structurally weaker growth compared with the United States. In addition, wide-ranging and costly efforts are under way to strengthen Europe's defence capabilities and transform the economy to meet the EU's climate goals. Several euro area countries face uncertain political situations, making it difficult to make the cuts and prioritisations that are necessary in the long term. One example of the problems this has caused was the rise in French government bond yields in the summer of 2024, following the French parliamentary elections (see chart 7, right). The uncertain post-election parliamentary situation led to a persistent rise in yields, even though austerity measures were proposed. Another example is the increase in market interest rates in the United Kingdom in autumn 2024 when the UK government presented a new budget.

Chart 7. Public debt and interest rate differentials

Per cent, percentage points



Note. The dashed lines in the left-hand chart refer to IMF forecasts of the government debt-to-GDP ratio from October this year. The chart on the right refers to 10-year benchmark interest rates. The dashed vertical line marks the date of publication of the previous Financial Stability Report.

Sources: IMF, Macrobond and the Riksbank.

Debt problems can be reduced through savings but this can be inhibiting for growth. One way of reducing the debt problem is to try to raise the long-term growth rate. In September, Mario Draghi presented a report commissioned by the European Commission.[15] The report proposes various measures to boost Europe's competitiveness and growth and to make the green transition a driver of growth. Implementing these proposals will require significant investment.[16] Even if private capital were to provide part of the investment, the implementation of the proposals would require public funds

[14] Ibid.

[15] See *The future of European competitiveness*, September 2024, European Commission.

[16] According to the report, the estimated annual investments would need to amount to EUR 750-800 billion, corresponding to 4.4-4.7 per cent of GDP in the EU in 2023.

and thus necessitate prioritisation to avoid further deterioration of public finances in the short term.

Much of the focus today is on the United States, which has a record public debt and a continuing large budget deficit. However, the market's patience with the situation is high, given the US dollar's special status as a world currency and the fact that its economy is a global force for growth and innovation. The newly elected president will nevertheless have to deal with weak public finances. If large unfunded tax cuts and increased expenditure are implemented, they could lower confidence in the US dollar and raise market interest rates in the longer run. The political challenges may also increase as the interest cost of financing the debt takes an increasing share of budgetary resources. Net interest costs are expected to amount to over three per cent of GDP in 2024.[17] This is the government's third largest expenditure item and is larger than defence spending.

[17] See *Final Monthly Treasury Statement*, September 2024, US Treasury Department.

3 Household and corporate sector

Many households and companies have had to make major adjustments to their finances as a result of the previous high inflation and higher interest rates. Mortgage borrowers have shown resilience but personal finances have been strained for many households. One sign of this is that the number of applications for orders to pay has continued to rise. There has also been a clear decline in consumption, which has affected the profitability of businesses. Bankruptcies remain high but, in general, these companies have had little or no credit from banks. The higher interest rates have been particularly challenging for highly indebted property companies. However, financial conditions have improved and more and more property companies are again using the capital market for their financing. However, the continued weakening of the rental market poses a risk to property values.

3.1 The situation of households has improved

High interest rate sensitivity has led to major adjustments

Many households have had to make major adjustments to their personal finances as a result of the previous high inflation and the shift in monetary policy. Households also generally consider their finances to be worse today than twelve months ago.[18] Households are spending more than twice as much of their income on interest payments now compared with the beginning of 2022 (see chart 8, left). This is because many households are highly indebted and many of their loans have short interest rate fixation periods. This is also true in an international perspective. Tenant-owner housing associations have also had to make adjustments.[19] As a result, many households living in tenant-owned apartments have had to pay a higher fee to their association.

As in other countries with highly indebted households, Swedish household consumption has been weak in recent years (see chart 8, right). This development has continued in the first two quarters of this year but consumption is expected to pick up going forward.[20] Real wages are expected to increase, while a more expansionary fiscal policy is expected to contribute to an improvement in household finances next year. In addition, inflation has fallen back and the Riksbank has cut the policy rate and announced that further cuts are to be expected in the future. All in all, this strengthens

[18] See *Economic Tendency Survey,* October 2024, National Institute of Economic Research.

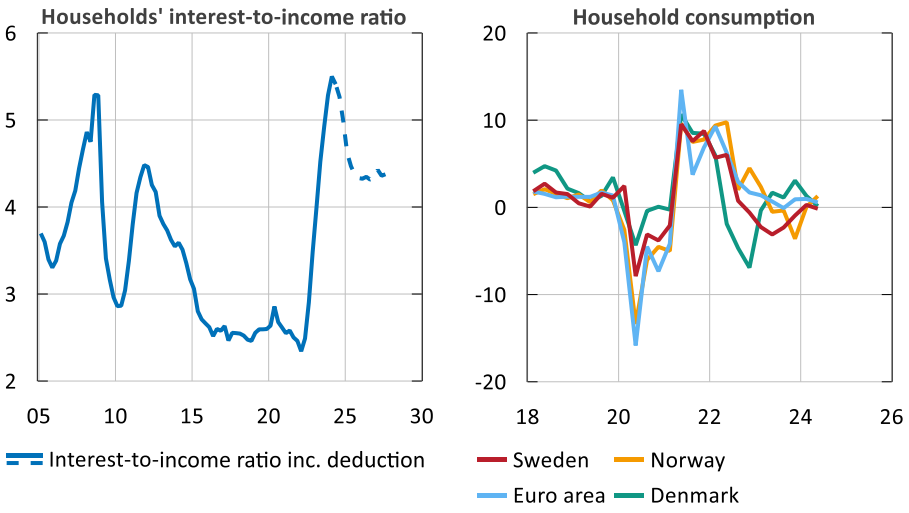
[19] See box *"Higher interest rates affect tenant-owner association fees"* in Financial Stability Report 2024:1, Sveriges Riksbank.

[20] See *Monetary Policy Report*, September 2024, Sveriges Riksbank.

households' finances and ability to pay. However, household interest expenditure will remain at a higher level than before the rise in inflation and interest rates.

Chart 8. Household interest-to-income ratio and consumption

Per cent



Note. The chart on the left refers to total household interest expenditure as a percentage of seasonally-adjusted disposable income.

Sources: Eurostat, Statistics Sweden, Statistics Norway and the Riksbank.

More households are finding it harder to repay their debts

Mortgages account for around 80 per cent of total household borrowing from monetary financial institutions (MFIs) and pose risks to both the real economy and financial stability (see the article "Macroprudential measures safeguard the resilience of the household sector"). However, the resilience of mortgage borrowers has been relatively good. It is mainly other types of loan, such as unsecured loans, that have caused more households to experience payment problems. This may be because credit assessments for such loans are less extensive than for mortgages. Many households with small margins have loans that exceed their debt-servicing ability, and their ability to cope with changing economic conditions has been limited.[21]

Other types of debt, such as unpaid bills, have also been associated with payment problems. These make up about half of the volume of debt that comes to the Swedish Enforcement Authority. Since 2021, the number of applications for new orders to pay has increased (see chart 9). Up to June 2024, almost 300,000 people had received new orders to pay. In addition, the total debt and the median debt of the new orders to pay are now larger than before.[22] Although the median debt is relatively low, about 40 per cent of total debt is in the SEK 100,000-500,000 range. There is no data on the type of debt to which these orders to pay relate but it is likely that most of them are unsecured loans. The fact that more people are receiving new orders to pay shows

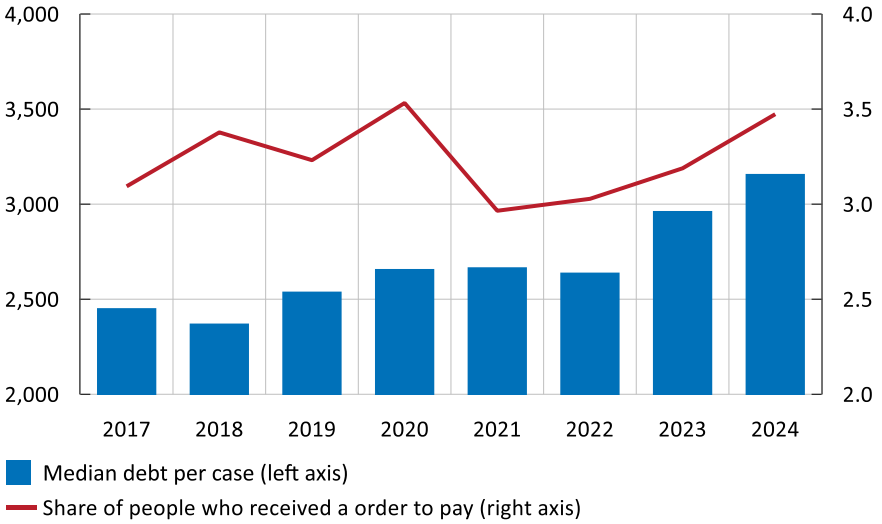
[21] Swedish Consumer Credit, December 2022, Finansinspektionen.

[22] In the first half of 2024, just under 300,000 people received orders to pay, equivalent to SEK 18 billion.

that payment problems among households have presumably increased recently. This has resulted, among other things, in a deterioration in the credit quality of consumer credit banks.

Chart 9. Median debt and share of the population receiving an order to pay

SEK, per cent



Note. Median debt per payment injunction case at the Swedish Enforcement Authority. The proportion of people receiving payment injunctions refers to the number of people in relation to the population aged 18 or over. To make the data for 2024 comparable, only data for the first half of each year are used.

Sources: The Swedish Enforcement Authority and the Riksbank.

Recovery in the housing market

The housing market has also been affected by the high inflation in recent years and higher interest rates. The number of transactions has decreased from the level that prevailed during the pandemic and is now back to roughly the same levels as in 2019.[23] In addition, the number of homes for sale has been at a record high. This may be because households are more likely to want to sell their home before buying a new one. It may also be because more people want to sell now that there is less uncertainty in the housing market. Since the start of the year, housing prices have risen by about 3 per cent. However, compared to the peak in early 2022, housing prices are just over 10 per cent lower.[24] For those who bought before the downturn, with a high loan-to-value ratio, this has meant that a large part of the down payment has been lost. At the same time, lower prices have made it easier for households that have not previously owned their home to enter the owner-occupied housing market.

The large number of homes for sale may have a dampening effect on housing prices. However, as mortgage rates fall and household incomes rise, housing prices are expected to rise moderately in the coming years. Less stringent borrower-based macroprudential measures could help housing prices to rise more as households are allowed

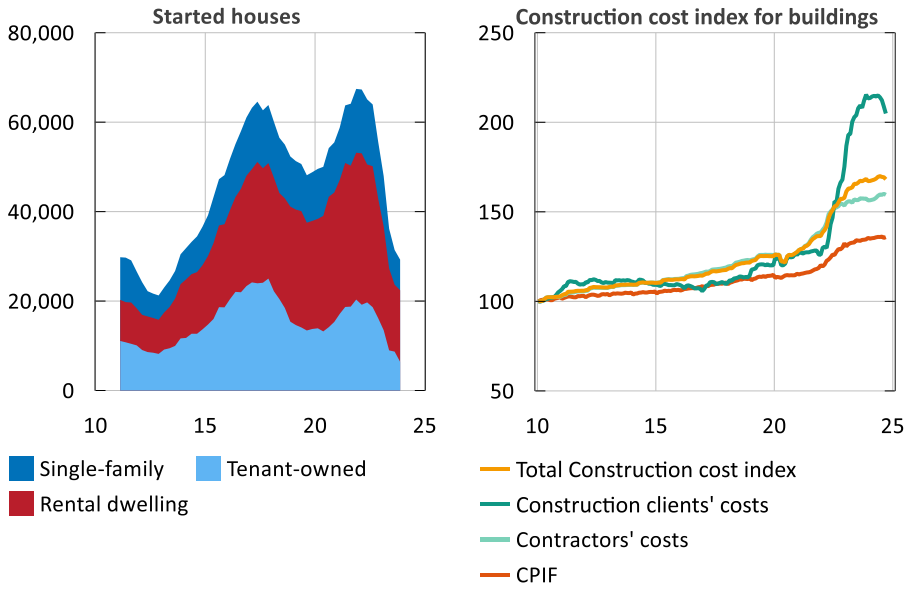
[23] See chart A.2 in the chart Appendix.

[24] See chart A.3 in the chart Appendix.

to take out larger loans for the purchase of new homes. Such a development is undesirable and could lead to a resurgence of risks associated with household borrowing.

Residential construction may also affect housing prices in the future. The number of new construction starts has fallen sharply in recent years (see chart 10, left). Part of the decrease is due to the fact that fewer rental apartments have been built. In addition, demand for newly built tenant-owned housing has declined as a result of higher interest rates, lower real wages and lower prices on the secondary market. The cost of building new homes has also increased by over 20 per cent (see chart 10, right). This has made it even more difficult for construction and property companies.[25] The expected slower population growth in the future means a lower long-term need for new housing in Sweden.

Chart 10. Housing starts and construction cost index for apartment blocks
Number, Index 2010=100



Note. The left-hand chart shows the number of housing starts calculated as a moving 12-month figure. The right-hand chart refers to the construction cost index for apartment blocks excluding wage drift and VAT.

Sources: Statistics Sweden and the Swedish National Board of Housing, Building and Planning (Boverket).

Low credit growth can lead to reduced risks

New bank lending to households remains low. The fact that loans have not increased so much can be explained, among other things, by the fact that price developments on the housing market have been subdued and that fewer homes have been built. In addition, households have taken out fewer additional loans than before, while the higher interest rates have increased households' incentives to amortise. Overall, the ratio of household debt to both disposable income and GDP has fallen from a high

[25] Balancing the budget for rental housing has also been made difficult as a result of the abolition of government investment aid and two judgments in the Svea Court of Appeal that limit the scope for rent increases.

level over the past two years. This has reduced the risks associated with household borrowing, although they remain high by international and historical standards. From a stability perspective, it would be desirable for household borrowing to grow more slowly than, or at least in line with, household disposable income. Now that interest rates are falling, risk-taking among households may increase again. Moreover, if macroprudential measures are relaxed, this could lead to a resumption of rapid growth in both housing prices and mortgages.

3.2 Continued weak economic activity is a challenge for companies

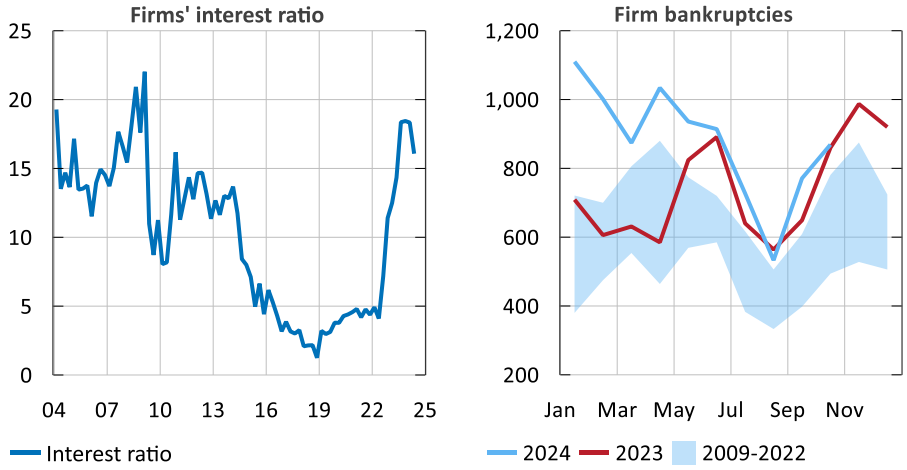
Continued weak demand means several challenges remain

In the spring, many companies expected the economy to recover. These expectations have not been fully realised and sentiment among Swedish companies remains subdued.[26] This is due to continued weak demand for goods and services, which, together with high costs, is challenging the profitability of some firms. However, the situation varies from sector to sector. The problems are greatest among household-related companies, while the situation is better for companies that export and those in business-related service industries. However, demand for Swedish export goods has weakened somewhat, which mainly affects industry. Companies' interest expenditure is still high, despite the interest rates faced by companies having fallen when the Riksbank cut its policy rate. The aggregate corporate interest ratio remains at a high level (see chart 11, left). However, not all companies have loans and current interest rate levels mainly affect the profitability of property companies and larger companies operating in industry and services.

[26] See, for example, the *Economic Tendency Survey,* October 2024, National Institute of Economic Research and "Hard to see any improvement in the near term"*, Riksbank Business Survey* October 2024, Sveriges Riksbank.

Chart 11. Interest ratio and bankruptcies

Per cent, number



Note. The interest ratio (left) is annualised and is calculated as the total interest expense of the companies as a proportion of their operating surplus. The shaded area in the right-hand chart represents the number of monthly bankruptcies over the period 2009-2022.

Sources: Statistics Sweden and Growth analysis.

Weak demand has contributed to the persistence of an elevated level of company bankruptcies (see chart 11, right). Bankruptcies are highest among companies in construction, retail trade and certain services. Most bankruptcies occur among smaller companies with few or no employees. In contrast, slightly more large companies have gone bankrupt in 2024 than before. About a quarter of the companies that went bankrupt had one or more loans in the period before they went bankrupt, while a majority of the companies did not have any loans.[27] In total, these companies had almost SEK 4 billion in loans from credit institutions and the median loan was around SEK 150,000.[28] This loan volume has been too small to have a significant impact on the banks. On the other hand, more bankruptcies have partly contributed to higher unemployment and lower demand for commercial space. As the economic recovery appears to be proceeding more slowly than was previously expected, it is likely that bankruptcies will remain at an elevated level for some time to come.

However, companies can have other types of debt. For example, almost 15 per cent of companies that have gone bankrupt in 2024 have not been able to pay back the temporary tax relief granted during the coronavirus pandemic.[29] The number of companies that have been granted deferrals and have experienced payment problems has increased. Smaller companies still account for the largest share of companies that

[27] According to microdata from the Riksbank's credit database, KRITA; refers to outstanding bank loans for these companies as at December of the year before they went bankrupt.

[28] The loan volume is almost twice as high as in 2023. However, the increase is driven by a single property company that ultimately did not cause any loan losses for the banks following the sale of collateral. Excluding the individual property company, the total loan volume among the failed companies amounted to approximately SEK 2.4 billion in 2024. This was roughly the same volume of loans as in 2023.

[29] According to information from Creditsafe. At the same time, information from the Syna credit information agency indicates that the proportion of companies with tax deferrals that have gone bankrupt may be just over 25 per cent.

have problems paying their tax debts. In 2024, an increasing number of medium-sized and large companies have been struggling to pay debts related to the deferrals.[30] Companies that were granted tax deferrals are often in a worse financial situation than comparable companies without tax deferrals. It is therefore not surprising that they are going bankrupt in a challenging period.

Weak credit growth despite improved financial conditions

Despite the lower interest rates charged to companies, their overall borrowing, both via banks and via securities markets, has remained weak. The annual growth rate of companies' total borrowing has been negative throughout 2024 and declined by almost 5 per cent in August 2024 (see chart 12, left).[31] The ratio of corporate loans to earnings has therefore continued to decline slightly (see chart 12, right).[32] This suggests that the build-up of risk associated with corporate loans has declined somewhat, compared with the previous Financial Stability Report.

Although overall credit growth is negative, there are some signs that borrowing may increase in the future. Activity in the Swedish bond market has been subdued since 2022 but has gradually increased during 2024 as a result of higher risk appetite among investors. This has put pressure on risk premiums, which are back around the levels that prevailed before the rise in inflation and interest rates. However, bond maturities have been relatively high, which has meant that the growth rate of securities borrowing remains negative. Bank lending tends to covary with business sentiment, which has improved slightly since the spring.[33] This could lead to an increase in demand for loans. Increased lending for productivity-enhancing investment would contribute positively to the economic recovery.

[30] See *Tillfälliga anstånd med skattebetalning 2024:12* (*Temporary deferrals of tax payments 2024:12)*, September 2024, Swedish Tax Agency.

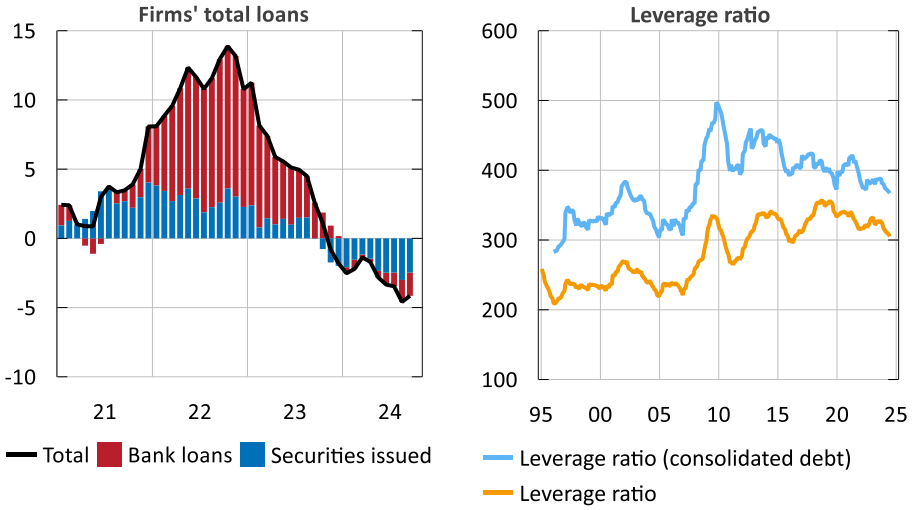
[31] The growth rate has been negative throughout 2024 even when commercial property companies are excluded from the calculation; see chart A.4 in the chart Appendix.

[32] A similar trend can be observed in other European countries. For 20 euro area countries, the debt-to-GDP ratio (measured by consolidated debt, which corresponds to the light blue line in chart 12) declined from around 385 per cent in 2020 to 310 per cent in the second quarter of 2024.

[33] See chart A.5 in the chart Appendix

Chart 12. Corporate loans and debt ratio

Annual percentage change



Note. The left-hand side refers to the change in stocks, which is not adjusted for exchange rate fluctuations or loans bought and sold. In the right-hand chart, the leverage ratio refers to interest-bearing liabilities in relation to net operating income. Leverage ratio (consolidated debt) is a broader measure of corporate loans, which includes loans from foreign banks. Leverage ratio (yellow line) includes only loans from Swedish banks and issued certificates and bonds.

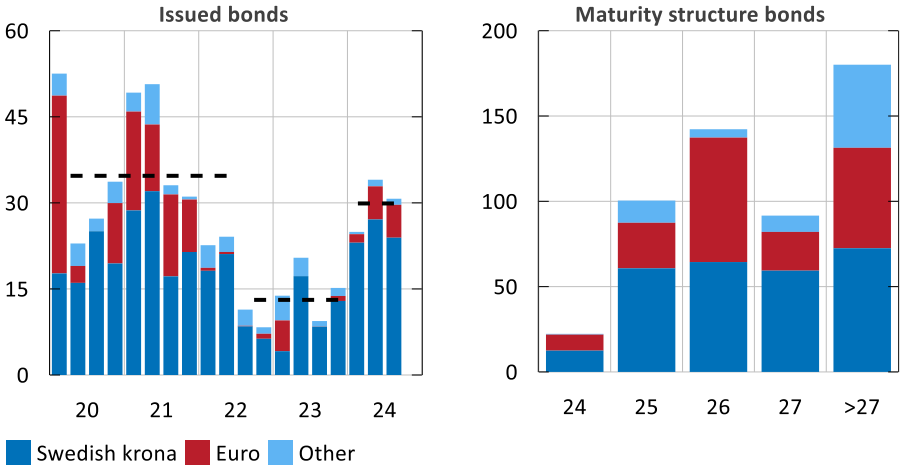
Sources: The Riksbank (KRITA and SVDB) and Statistics Sweden.

Financial conditions of property companies have improved

Banks as well as other financial agents, such as funds, pension companies and insurance companies, have large exposures to property companies, which remain highly leveraged and pose a stability risk. Over the past two years, property companies have faced challenges that have been primarily linked to their financing situation and ability to pay higher interest costs. But with interest rates now starting to fall and greater optimism about the future, the financial conditions have become more favourable. This is particularly evident in the Swedish bond market. Commercial property companies have accounted for half of total corporate bond issuance. Since the spring, the vast majority of property companies that are able to issue new bonds have chosen to do so. So far this year, bonds totalling more than SEK 70 billion have been issued in Swedish kronor. This is almost the same volume as for the same period in the record year 2021 (see chart 13, left). The possibility of issuing new euro-denominated bonds has also increased, although so far only a few property companies have done so.

Chart 13. Bond issues and maturity structure, property companies

SEK billion



Note. The chart on the left shows gross bond issuance by Swedish property companies. The dashed lines refer to the average issue volume to illustrate periods of relatively very high and very low bond issuance. The right-hand chart refers to the maturity structure of the property companies' outstanding bonds. Data are as of September 2024.

Source: SCB (SVDB).

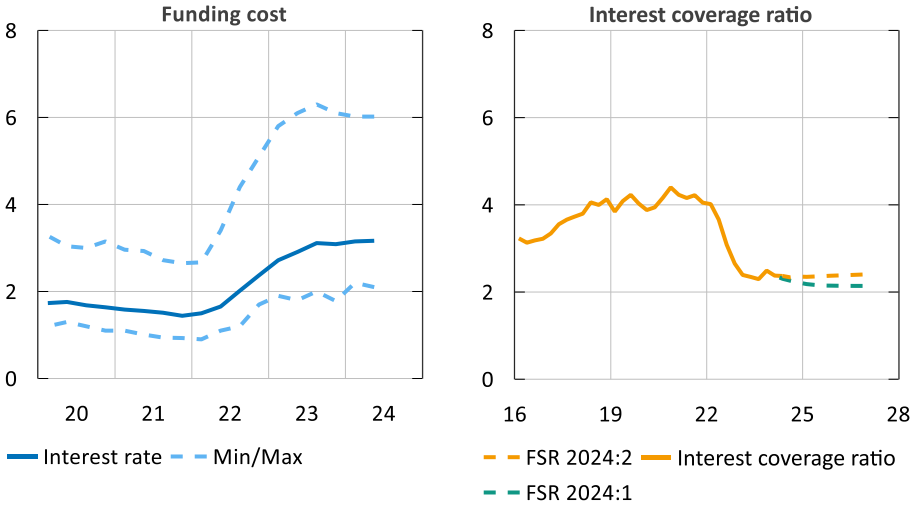
This development has reduced the short-term refinancing risks of property companies. Although there will be large bond maturities next year, a large proportion of these are expected to be refinanced (see chart 13, right). Banks have been an important source of finance for property companies at a time when they have found it difficult to refinance their bond loans. As property companies turn increasingly to the bond market, this means that credit risk is being distributed among more lenders instead of being concentrated in the banks. On the other hand, the fundamental vulnerability associated with property companies' bonds in Swedish kronor remains. The investor base is still largely made up of corporate bond funds. In order to manage fund unit redemptions, these funds have acted as sizeable sellers during periods of market turmoil, which has impaired the functioning of the bond market. Since funds still are vulnerable to large redemptions, there is thus still a risk of property companies relatively suddenly not being able to refinance maturing bonds if this coincides with market turmoil. For the bond market to become a long-term stable source of funding, investor vulnerabilities need to be reduced (see Section 4.2).

Furthermore, the high risk appetite in the bond market has meant that risk premiums have declined throughout the year. They are now around the low levels that prevailed before the rise in inflation and interest rates. It is possible that the reduction in risk premiums is not fully justified, based on how risks in the property sector have developed. But this means that the risk premiums are now roughly the same for new loans as for the older loans that are maturing. In addition, market rates have fallen. This means that the earlier rise in interest rates will soon have had its full impact on the average funding costs of property companies. At the end of the second quarter of 2024, the average volume-weighted funding cost was 3.2 per cent among 34 large property companies. However, the funding costs of property companies differ (see chart 14, left). Some property companies still have lower average funding costs than

they would have had if they had borrowed at prevailing market rates. Consequently, as they renew loans, their funding costs will continue to rise somewhat. Other property companies are in the reverse situation, where their funding costs going forward will instead decline. Overall, interest coverage ratios will stabilise for many property companies but at a higher level than expected in the spring Financial Stability Report (see chart 14, right).

Chart 14. Funding cost and interest coverage ratio

Per cent, ratio



Note. The left-hand chart shows the volume-weighted funding cost for 34 large property companies, where the dashed lines represent the lowest and highest funding cost within the group. The right-hand chart shows the average interest coverage ratio for the same sample of property companies, rolling 12 months. Dashed lines are an estimate of how the interest coverage ratio is expected to develop on average in a situation where the policy rate develops in line with the Riksbank's forecast in March 2024 (FSR 2024:1) and September 2024 (FSR 2024:2). Rental income increases throughout the period.

Sources: Sedis and own calculations.

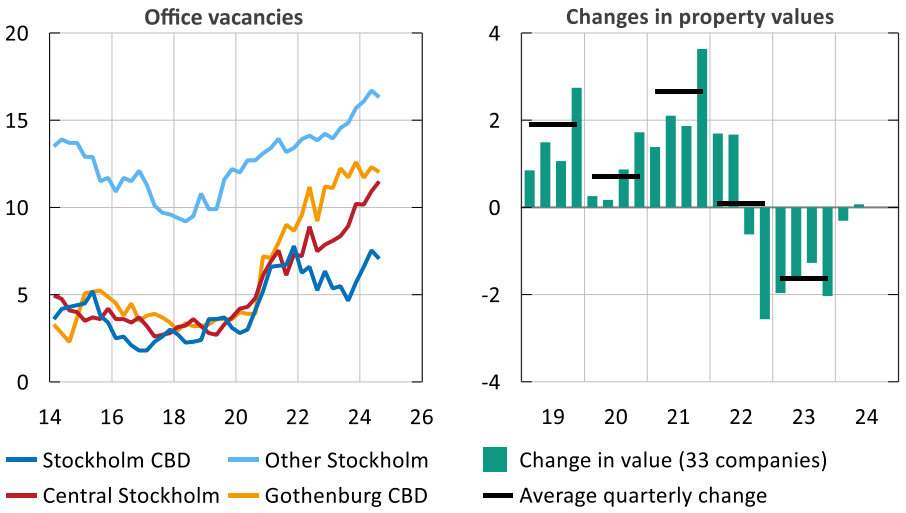
The rental market for office properties has continued to develop weakly

The rental market for offices and some retailers in particular has continued to develop weakly. Unlike in the past, there are now also some signs that it has become slightly more difficult to rent out newly produced rental apartments in certain areas. In the office segment, vacancies have continued to rise and are at a high level (see chart 15, left). In addition, the share of temporary rental discounts for office space has also increased slightly. To some extent, this has meant that rent increases have been lower than would be justified by the indexation of rent levels that normally takes place at the beginning of the year. The office rental market may weaken further due to the weak economic recovery, together with structural factors such as continued space rationalisation and new ways of working. This mainly concerns office properties in less favourable geographical locations. Such a development could have a negative impact on the operating profit of property companies but would likely have a relatively limited effect on companies' interest coverage ratio. However, in a bad scenario, such

developments could lead to a renewed loss of confidence in some property companies and an increase in their funding costs.

Chart 15. Vacancies and changes in property values

Per cent



Note. The left-hand chart shows the vacancy rate (area) for offices. Central Business District (CBD) refers to the most centrally located office properties in the inner cities of Stockholm and Gothenburg respectively. Central Stockholm refers to the central parts excluding the CBD. The right-hand chart shows the volume-weighted average change in value per quarter according to MSCI and for 33 major property companies.

Sources: Citymark, MSCI and Sedis.

Weaker rental market poses downside risk to property values

A weaker rental market also affects property values. Property companies have on average written down their property values by around 10 per cent since autumn 2022.[34] However, the write-downs have been relatively limited in 2024 as required rates of return have stopped rising as market rates have fallen (see chart 15, right). Thus, although property values now appear to have stabilised, downside risks remain in the form of rising vacancies and weak rental growth. Moreover, if optimistic assumptions about future cash flows remain in the valuations, this may also affect the value of the properties going forward.

The fact that property values have not been adjusted downwards more to date is partly due to the fact that rents for commercial premises have increased as a result of CPI indexation, compensating to some extent for the rising required rates of return. Before the rise in inflation and interest rates, required rates of return were historically low for many properties. Simplified cash flow calculations indicate that the value of, for example, office properties would be about 25 per cent lower today than the peak

[34] According to a sample of 33 property companies. Data from MSCI (MSCI Data Notice) running until the end of 2023 indicates a slightly lower downward adjustment of property values.

in 2022 without indexation.[35] Overall, this suggests that there is still some headroom in current property values and companies could be adversely affected if the office rental market were to continue to weaken.

The property sector needs to become more resilient

The high interest rates of the past two years have been a major challenge for property companies, with some experiencing payment problems and individual companies going bankrupt. This has had negative effects on the real economy. For example, property companies have reduced their investment in housing and property and unemployment in the construction sector has increased. Overall, however, the impact on lenders has remained limited. There are several reasons for this. One reason is that, alongside lower investments, property companies have also taken other measures to strengthen their balance sheets, such as selling properties and issuing new shares to manage both loan payments and loan maturities.[36] The fact that many rental contracts are indexed to inflation has also helped to strengthen companies' cash flows. Most importantly, banks were able to support property companies in refinancing loans, which was possible due to the banks' strong capital situation. In addition, bond investors extended the maturity of some existing bonds. It would otherwise have been difficult for some property companies to pay or refinance these loans. As a result, most property companies have not had to make large forced sales that could have quickly amplified the financial stress and the decline in property values.

Although financial conditions have improved, some challenges remain for property companies. For example, the rental market remains weak, which is a trend that risks being reinforced to some extent as the economic recovery appears to be somewhat delayed. In addition, there are still vulnerable property companies that should continue to strengthen their balance sheets. It is also important that companies learn the lessons from the sharp increases in interest rates in recent years. A strategy based on debt-fuelled expansion is not sustainable in the long term. It is instead favourable from a stability perspective if the sector going forward has a lower level of indebtedness and longer capital and interest rate fixation periods than it had before the rise in interest rates. This makes the property sector less vulnerable to changes in both financial and economic conditions.

[35] The calculations are based on a 10-year cash flow calculation where rent growth in the first four years increases by actual inflation (CPI) for the period 2021-2024, instead of the normal rent growth assumption of 2 per cent. Furthermore, the required rate of return in the calculations increases by 0.8 percentage points. This corresponds to the average change in required rates of return for a sample of property companies that mainly manage office properties. However, the value of a property is affected by other factors linked to the active management of a property, such as investments, vacancies, rent renegotiations, market rents and management costs. These factors have not been taken into account in the calculations.

[36] See *Financial Stability Report 2024:1*, Sveriges Riksbank, for a broader discussion of the measures taken by property companies.

4 The Swedish financial system

The Swedish financial system is working well overall and the availability of the infrastructure systems is high. The major banks have high profitability and low loan losses but their large exposure to commercial property and high dependency on other countries continues to create vulnerabilities. Both profitability and loan losses look worse for some consumer credit banks. In addition, some banks have concentration risks in their deposits. This is particularly true for major banks and securities-trading banks. At the same time, corporate bond funds have become increasingly important participants in the corporate bond market. Many of these funds lack sufficient liquidity to handle large redemptions from their investors. In the event of large outflows, they may therefore need to sell larger volumes of corporate bonds. The Riksbank has repeatedly pointed out that, in such a scenario, the funds could exacerbate existing stress. The financial infrastructure needs to be modernised and harmonised with international standards.

4.1 The major banks have ample margins down to the regulatory requirements, but the situation is worse for small banks

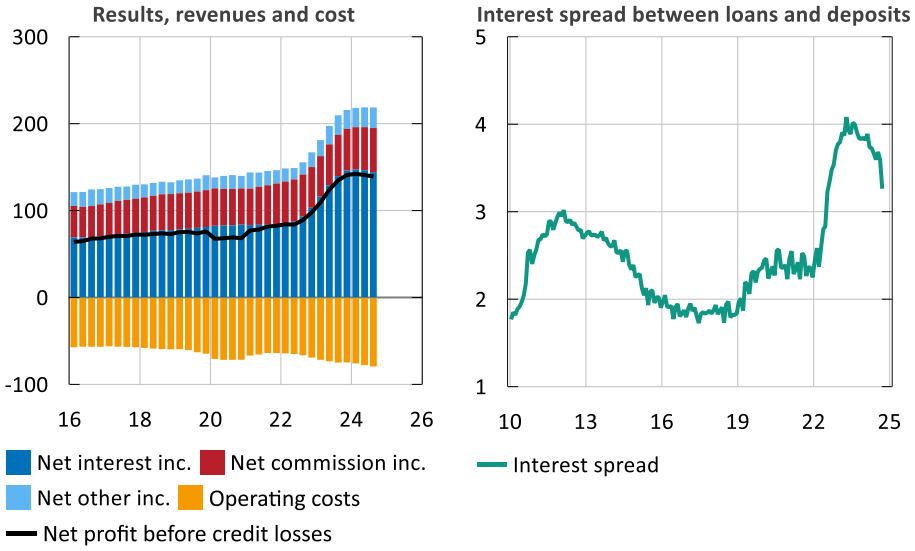
Major banks' profitability is high and loan losses are low

The major Swedish banks have high profitability and ample margins to the regulatory requirements for capital and liquidity.[37] Their profitability and capital adequacy are also high compared to European banks. The high profitability is partly due to the major Swedish banks having suffered low loan losses. But the main reason is that their net interest income has benefited as they have increased their lending rates more than their funding costs have risen (see chart 16). While it is easy for bank customers to open a new savings account with another bank with a higher interest rate, there are still high thresholds to switching banks completely. This reduces customer mobility. In addition, it is difficult for customers to compare banks' overall offerings in terms of deposit and lending rates and other services they provide.

[37] Among others, the CET 1 capital requirement and the liquidity buffer requirements (LCR) and the net stable funding requirement (NSFR).

Chart 16. Operating profit and difference between lending and deposit rates

SEK billion, percentage points



Note. Data for operating profit refer to Handelsbanken, SEB and Swedbank, rolling 4 quarters. The right-hand chart refers to the difference between MFI lending rates on new agreements with households and non-financial companies, and bank deposit rates on new agreements with households and non-financial companies.

Sources: Banks' interim reports and Statistics Sweden.

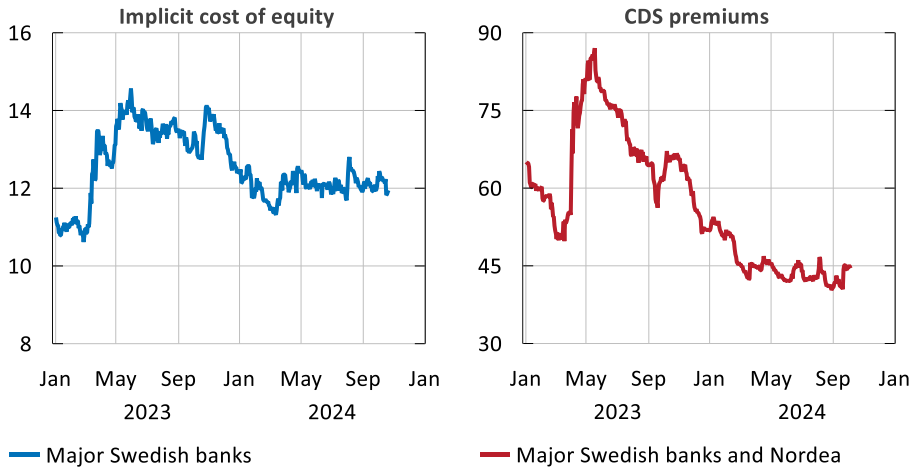
Last year, investors assessed that the risks associated with the major Swedish banks had increased slightly, despite their high profitability. This was partly related to the banks' exposures to highly leveraged property companies and was reflected in an increase in investors' implied required rates of return and CDS premiums (see chart 17).[38] As concerns over the property sector have eased, investors' views on the banks have become more positive. Although Swedish banks' exposures to the property sector are relatively large, neither non-performing loans nor loan losses in these exposures have increased to any significant degree. A contributory cause is that the larger Swedish property companies obtain funding from a mix of bank loans and bonds. The risk is thus shared between the banks and the bondholders. However, the banks have an extra layer of protection that the bondholders do not because they have secured their loans by taking the properties as collateral. This means that if a property company gets into trouble, the banks have a stronger negotiating position than the bondholders. This became evident when interest rates rose and bondholders were forced to renegotiate the terms of their bonds.

However, banks' large exposures to loans to commercial property companies make them vulnerable to certain macroeconomic scenarios, such as sharp increases in interest rates. In such scenarios, losses on loans to commercial property companies could increase significantly. However, the risk of far-reaching consequences for financial stability is countered by the fact that the banks are well capitalised and profitable.

[38] CDS is short for Credit Default Swap, which is a contract between credit market participants that aims to transfer the credit risk of an underlying asset from one participant to another.

Chart 17. Required rates of return and CDS premiums for the major banks

Per cent, basis points



Note. The major Swedish banks are Handelsbanken, SEB and Swedbank. The left-hand chart refers to the implied required rate of return (or CoE: Cost of Equity), calculated with equity prices as a basis. The right-hand chart refers to CDS premiums for 5-year senior bonds.

Sources: Bloomberg and S&P Capital IQ.

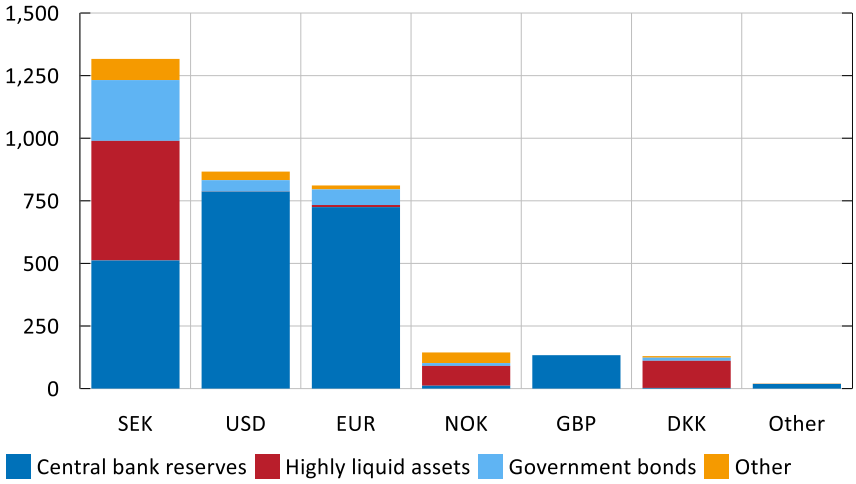
Covered bonds are increasing in the major Swedish banks' liquidity portfolios

The major Swedish banks' liquid assets amount to just over SEK 3,400 billion, the majority of which is in foreign currency (see chart 18). However, the composition of their liquidity portfolios may change. One reason for this is that the Riksbank's quantitative tightening (QT) means, among other things, that the Riksbank's ownership of covered bonds is decreasing. To some extent, the banks have instead increased their ownership of covered bonds. Above all, however, foreign investors have returned to the Swedish covered bond market over the past two years. A large proportion of these investors are non-banks, such as hedge funds, which often borrow from Swedish banks to finance their purchases.[39] As banks take the covered bonds as collateral for the loans, the share of covered bonds in banks' portfolios of liquid assets is rising, thereby increasing interconnectedness in the financial system (see chart 19). If non-banks own a large share of the covered bonds, there is a risk that market funding will be more volatile. This risk is greater if investors decide to rapidly liquidate their positions.

[39] See M. Andersson (2024) "Investor behaviour in Swedish bond markets", Staff memo, Sveriges Riksbank.

Chart 18. The major Swedish banks' liquidity portfolios in various currencies

SEK billion

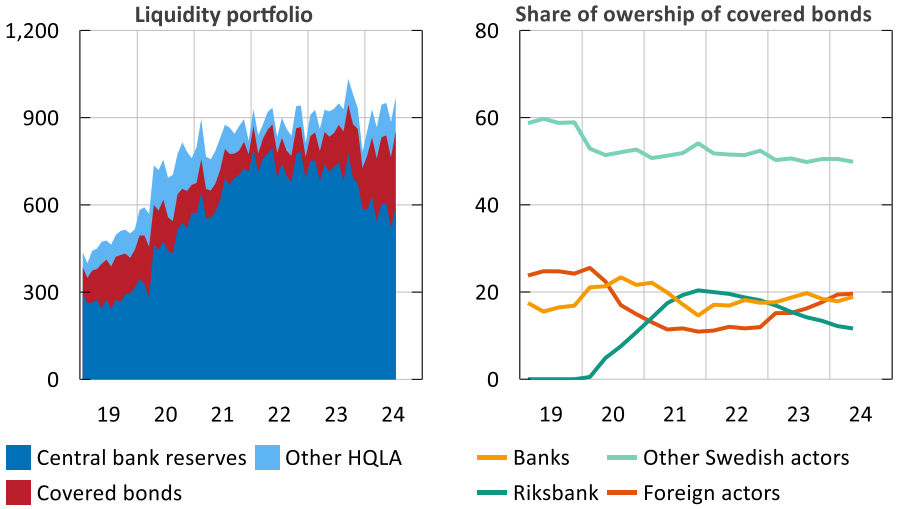


Note. Data for Handelsbanken, SEB and Swedbank.

Source: The Riksbank.

Chart 19. The major Swedish banks' liquidity portfolios and holdings in covered bonds

SEK billion, per cent



Note. The left-hand chart refers to Handelsbanken, SEB and Swedbank, and their liquidity portfolio in Swedish kronor after haircut. The right-hand chart refers to nominal values of covered bonds issued in Swedish kronor up to and including the second quarter of 2024.

Sources: Statistics Sweden and the Riksbank.

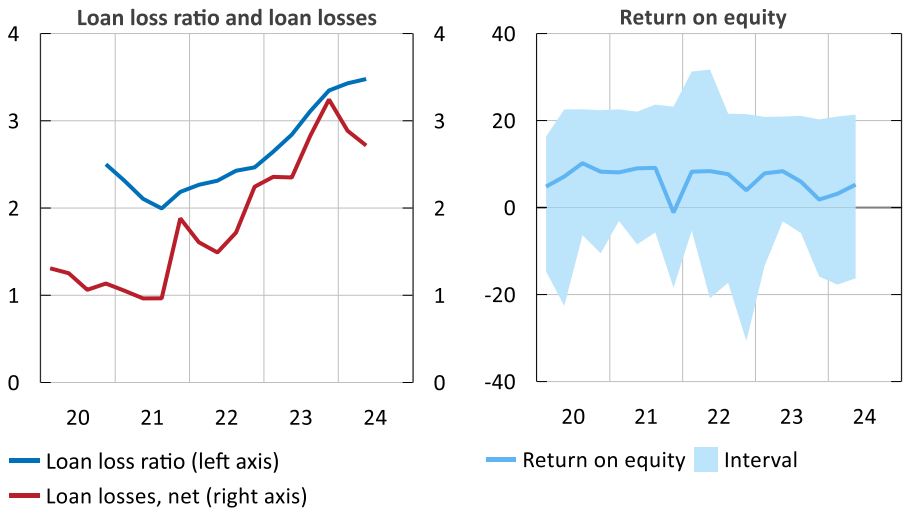
Loan loss rates remain high among consumer credit banks

Consumer credit banks' loan loss rates remain at high levels, although the increase has moderated somewhat (see chart 20, left). Consumer credit banks' loan loss levels are higher than those of the major banks partly because the majority of their lending is unsecured and partly because they target a different customer segment. Consumer

credit banks compensate for the higher risk in their lending by charging higher interest rates. However, although their profitability has improved slightly in 2024, their return on equity averages just over five per cent (see chart 20, right). This is almost ten percentage points lower than the major Swedish banks. However, profitability differs relatively widely between consumer credit banks as their business models differ.[40]

Chart 20. Loan losses and return on equity for consumer credit banks

Per cent, SEK billion and per cent



Note. Loan loss rate is reported as an average on a rolling 4-quarter basis. Consumer credit banks in the sample include Avida Finans, ICA Banken, Ikano Bank, Marginalen Bank, MedMera Bank, NOBA Bank Group, Norion Bank, Northmill Bank, Qliro, Resurs Bank, Svea Bank and TF Bank.

Sources: Banks' annual and interim reports.

Many consumer credit banks use deposit platforms

The amount of high-quality liquid assets a bank needs to hold to manage liquidity risks varies depending on the funding source. The major banks largely obtain funding in the market, while consumer credit banks are more dependent on deposits as a source of funding. Deposits from private individuals are typically regarded as a more stable source of funding than issued securities. Consequently, under the liquidity framework, consumer credit banks are not required to hold the same amount of liquid assets (see chart 21). However, some of these banks largely obtain funding through various deposit platforms.[41] The Riksbank's previous analysis indicated that deposits via platforms are more flighty than regular deposits and therefore create higher liquidity risks. Recently, Finansinspektionen found that some consumer credit banks that obtain funding using deposit platforms do not adequately account for the risks involved when calculating their liquidity measures, LCR and NSFR. Finansinspektionen has therefore clarified that this type of deposit – within the framework of the liquidity

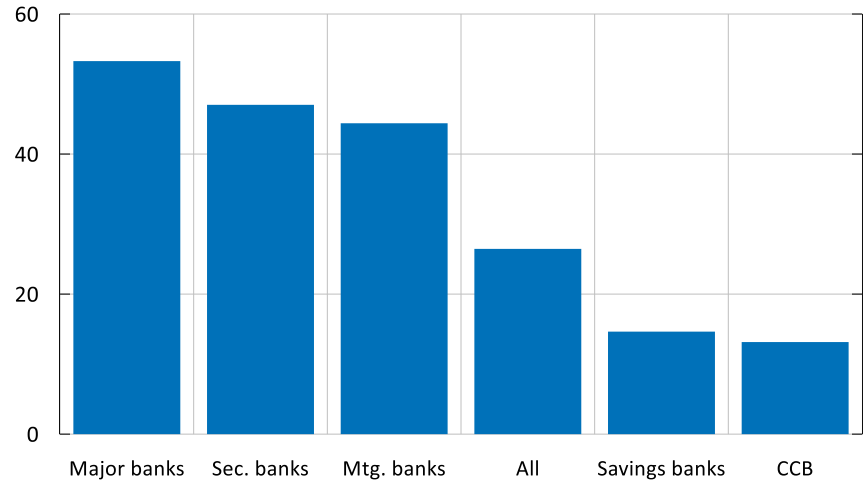
[40] See *Financial Stability Report 2024:1*, Sveriges Riksbank.

[41] See the box entitled "Saving via platforms", *Financial Stability Report*, 2024:1, Sveriges Riksbank.

rules – is to be regarded as more flighty than ordinary deposits.[42] The Riksbank assesses that Finansinspektionen's clarification will help to improve the banks' resilience.

Chart 21. High-quality liquid assets of different banks as a share of deposits

Per cent



Note. Sec. banks are securities-trading banks and CCBs are consumer credit banks.

Source: The Riksbank.

BOX: Concentrations in Swedish banks' deposits

The probability of sudden and large withdrawals is greater if a large share of a bank's deposits comes from a limited number of depositors or from a specific type of depositor than if the deposits come from a large number of different depositors.

The Riksbank has previously shown that the concentration in deposits varies between the Swedish banks but that it is greatest among major banks and securities-trading banks (chart 22, left).[43] For the average among the major banks and securities-trading banks, the 100 largest depositors account for 25 and 20 per cent of total deposits respectively, which is high compared to the average for other banks. It is worth noting, however, that there is substantial dispersion. In some banks, the top 100 depositors account for almost 40 per cent of their total deposits.

The type of depositor that makes up the largest share also varies (chart 22, right). For mortgage banks, consumer credit banks and savings banks, this concentration is mainly formed of deposits from non-financial companies. For consumer credit banks, retail depositors are the second largest, accounting for almost half of the largest depositors.

[42] See Finansinspektionen, September 2024. 2024:2 Inlåning genom digitala inlåningsplattformar [Deposits via digital deposit platforms].

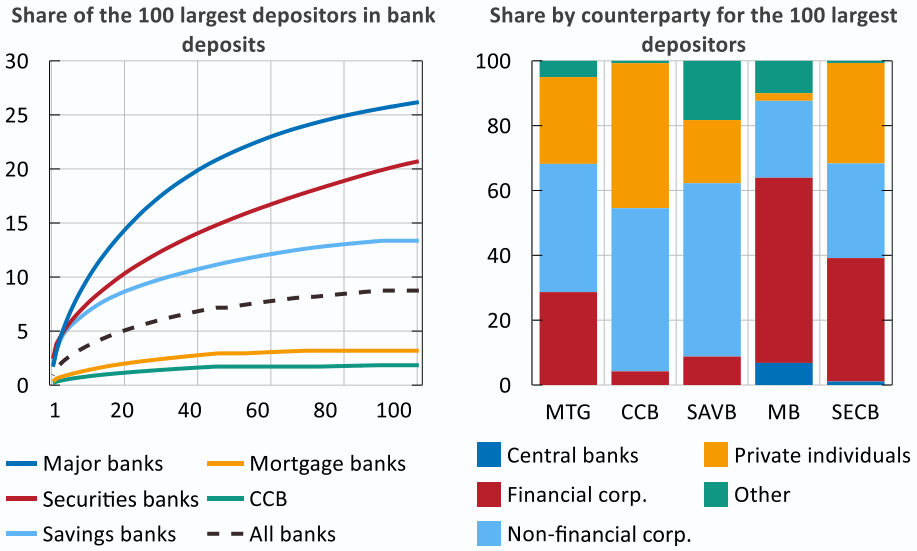
[43] The analysis is based on data collected in 2023 and presented in the article "Flightiness of deposits varies across Swedish banks", in *Financial Stability Report*, 2023:2, Sveriges Riksbank.

For major banks and securities-trading banks, financial companies account for the largest share of their concentrations towards individual depositors.

For a couple of banks, the single largest depositor at each bank constitutes a relatively large share, namely around four per cent of total deposits. For several banks, the 50 largest depositors also represent a significant share of their available high quality liquid assets (HQLA). For some banks, deposits from the 50 largest depositors constitute all or almost all of their liquidity buffer. This suggests that some banks would find it more difficult than others to cope with sudden withdrawals by their largest depositors.

Chart 22. Concentrations in Swedish banks' deposits

Per cent



Note. The chart on the left shows the cumulative share of total deposits, averaged by bank type. On the horizontal axis, depositors are ranked from 1 to 100, with the largest depositor being ranked 1. Far left: the average share of the largest depositor for a given type of bank. Far right: the average share of the 100 largest depositors for a given type of bank. In the chart on the right, MTG refers to Mortgage Banks, CCB Consumer Credit Banks, SAVB Savings Banks, MB Major Banks and SECB Securities-Trading Banks.

Sources: Banks' data reported to the Riksbank.

The Riksbank has wanted to gain a better understanding of the concentration of deposits among Swedish banks. The Riksbank has therefore supplemented the data collected in the autumn of 2023 with qualitative questions to the eleven banks that had the largest concentrations at that time.

In the responses, it appears that banks, in isolated cases, choose to take concentrations more into account by holding more liquid assets (HQLA) than are required under the Capital Requirements Regulation. This may involve concentrations towards individual customer segments where the bank knows that the outflow risk is high. Examples of such customer segments are financial companies such as money market funds

or funds with large assets under management. It may also involve concentrations towards individual companies or individuals whose deposits consist of assets that are expected to be rapidly reinvested, for example in securities.

In the vast majority of cases, however, the responses suggest that the banks generally do not hold more liquid assets than they would have held without concentrations. It is then a question of concentrations towards both non-financial and financial companies, as well as against private individuals, and also includes banks that have concentration towards companies with a strong regional focus. Instead, banks often work with other methods. For example, they have an ongoing dialogue with non-financial companies to better understand how their liquidity needs may change.

4.2 Non-bank financial institutions are growing as funders of multiple participants

Non-banks can amplify shocks in key funding markets

Non-banks are financial agents other than banks and they have become increasingly important funders of Swedish banks and non-financial companies. This development has advantages, for example in terms of risk diversification in the financial system. But it also comes with risks. One such risk relates to non-banks' liquidity management. This is particularly the case for investment funds, for example corporate bond funds, that invest in less liquid assets at the same time as they offer their unit holders frequent redemption opportunities. This creates a significant liquidity mismatch between the fund's assets and liabilities, a mismatch that is also larger than that of other financial agents. These funds then become vulnerable to sudden and large redemptions from their unit holders. In a stressed situation, there is therefore a risk that the funds will amplify already high selling pressure in the markets for the funds' assets, such as the corporate bond market.

Fund liquidity has not improved since the coronavirus pandemic

In March 2020, Swedish corporate bond funds suffered substantial net redemptions from their unit holders, amounting to SEK 25 billion (see chart 23). Selling pressure from funds in the secondary market for corporate bonds then drove up risk premiums, making it much more difficult to calculate reliable bond prices.[44] The uncertainty surrounding pricing meant that thirty or so funds had to temporarily close for deposits and redemptions. The liquidity situation of many funds was also strained, although they managed to sell a certain amount of bonds to cover some of the redemptions.[45] The market stress became so severe that, for a period at the end of March, no new bonds were issued. This made it more difficult for companies to obtain funding and increased the pressure on banks. The Riksbank initiated several measures, which

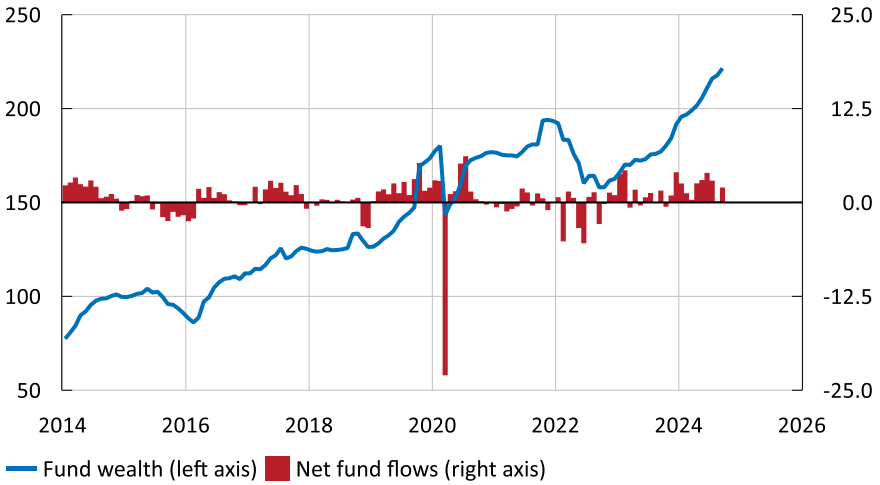
[44] See S. Wollert (2020), "Swedish corporate bonds during the coronavirus pandemic", Staff Memo, October, Sveriges Riksbank.

[45] See M. Andersson (2024) "Investor behaviour in Swedish bond markets", Staff memo, May, Sveriges Riksbank.

helped to stabilise the market. These measures included the Riksbank buying corporate bonds and lending money to banks for on-lending to companies.[46]

Chart 23. Fund assets and monthly net flows in corporate bond funds

SEK billion



Note. Net flows are the difference between deposits and redemptions from funds.

Source: The Swedish Investment Fund Association.

Since the beginning of 2020, corporate bond fund assets have increased by almost 25 per cent, reinforcing the importance of these funds for companies' market financing (see chart 23). The increase in fund assets is partly due to large net inflows to the funds. However, the share of liquid assets in the funds' portfolios has not increased.[47] In addition, only relatively few corporate bond funds have implemented the tool available under Swedish legislation to manage a fund's liquidity risks, namely the adjusted sale and redemption price. Overall, the risk of liquidity-driven sell-offs from the funds therefore remains.

Higher proportion of funds may make companies' market funding more vulnerable

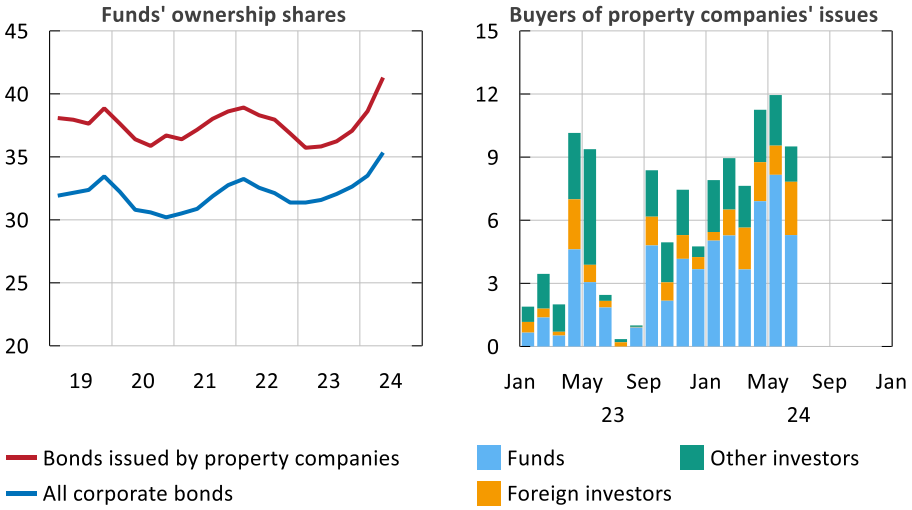
Investment funds own more than 35 per cent of the bonds issued in Swedish kronor by Swedish non-financial companies, which is a historically high proportion (see chart 24, left). As can be seen from the light blue bars on the right chart 24 , this has mainly been driven by funds increasing their rate of purchase of newly issued bonds of property companies in particular. Property companies have significantly increased their issuance volumes since the end of 2023 and they constitute the largest group of corporate bond issuers. Almost 60 per cent of these bonds are owned by Swedish funds. Foreign agents are also significant buyers of property company bonds (see orange bars in chart 24, right). These are also largely funds, but often funds of Swedish fund companies registered abroad, which can also be sensitive to large redemptions.

[46] See the article "How the Riksbank's measures have worked during the corona crisis" in *Monetary Policy Report*, September 2020, Sveriges Riksbank.

[47] See chart A.6 in the chart Appendix.

Chart 24. Funds' ownership shares in corporate bonds and property companies' bond issues broken down by buyer

Per cent, SEK billion



Note. The charts refer to nominal values of bonds issued in Swedish kronor and the last observation is 2024 Q2. There may be some discrepancies in the chart on the right, as quarterly data on holders is combined with monthly data on issues.

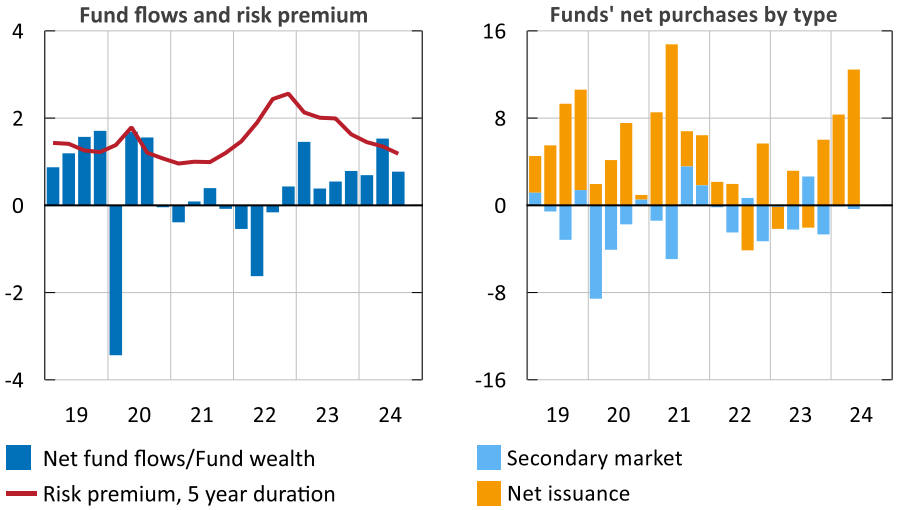
Sources: Statistics Sweden and the Riksbank.

Funds are generally flow-driven, meaning that they buy and sell securities depending on the net flows in the fund. Corporate bond funds have seen net inflows every quarter since the end of 2022, leading to continuous purchases of corporate bonds (see chart 25, left). Initially, these purchases took place during a period when higher interest rates and risk premiums were making it more difficult and expensive for Swedish non-financial companies to borrow on the capital market. The funds' increased purchases helped diversify corporate funding and relieve the pressure on the banks. Rising expectations of lower interest rates may have been one reason for the further increase in net inflows into the funds. When these deposits were invested in new corporate bonds, it helped to further reduce risk premiums, which are now back around pre-pandemic levels.

The funds' purchases were almost exclusively in newly issued bonds (see chart 25, right). The large demand from the funds has thus directly facilitated corporate refinancing and helped to lower their funding costs for new bond issues. However, the funds' growing presence in the corporate bond market increases the vulnerability of companies' market funding, as the liquidity situation of many of the funds has not improved compared to before the coronavirus pandemic.

Chart 25. Quarterly net fund flows in relation to fund assets, risk premium and how funds have bought corporate bonds

Per cent, SEK billion



Note. In the left-hand chart, the risk premium is the difference between the estimated zero-coupon government bond yield and the yield on investment-grade corporate bonds. In the chart to the right, "Net issuance" is purchases of newly issued bonds minus maturing holdings. For a more detailed description of the categorisation, see M. Andersson (2024) "Investor behaviour in Swedish bond markets", Staff memo, May, Sveriges Riksbank.

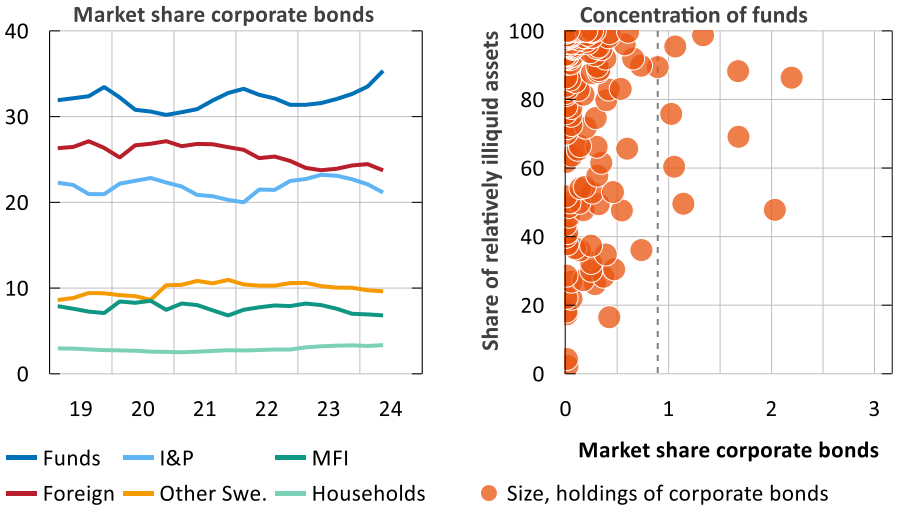
Sources: Bloomberg, Swedish Investment Fund Association, Refinitiv, Statistics Sweden and the Riksbank.

The composition of investors may have an impact on the risk profile

Insurance and pension companies have historically been major players in the Swedish corporate bond market. Unlike the funds, these companies are not at risk of large and sudden redemptions that can lead to liquidity-driven sell-offs of their assets. In 2024, however, insurance and pension companies' share of outstanding corporate bonds has declined (see light blue line in chart 26, left). One reason could be that the potential for risk-adjusted returns on corporate bonds has decreased, probably partly due to increased risk appetite and strong demand from the funds. The reduced spread in returns between different risk levels of corporate bonds has also made it more difficult for investors to find bonds that match their long-term risk appetite. This may have contributed to investors such as insurance and pension companies having chosen to invest their capital in these securities to a lesser extent.

Chart 26. Investor base and fund concentration in the market for corporate bonds in Swedish krona

Per cent



Note. In the chart on the left, "Funds" refers to investment funds registered in Sweden that have holdings in Swedish corporate bonds issued in Swedish kronor. "I&P" stands for insurance and pension companies and includes the National Pension Insurance Funds (AP funds). "Households" includes non-profit institutions serving households. The dashed vertical line represents the fund with the tenth largest holding of corporate bonds in SEK. Relatively illiquid assets include all securities that are not covered bonds, Kommuninvest bonds, government securities, commercial paper or shares in money market funds, where the share represents the share of the fund's total securities portfolio. All shares are based on the market value of the securities.

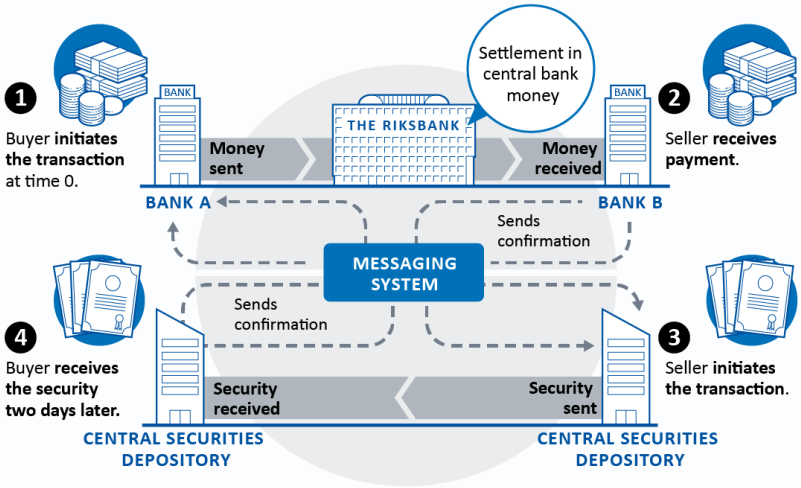
Sources: Statistics Sweden and the Riksbank.

Furthermore, there is some fund concentration in the corporate bond market. The ten largest corporate bond funds together own almost 15 per cent of outstanding corporate bonds in Swedish kronor (the funds on or to the right of the vertical dashed line in chart 26, right), with a few individual funds owning between 1 and 2.5 per cent each (see horizontal axis in chart 26, right). Several of these funds, like many smaller funds, also have a high allocation to relatively illiquid assets, which may lead them to have to sell some of these bonds even in the event of smaller outflows (see chart 26, right). Fund concentration, together with low risk premiums, may therefore amplify the effects of liquidity-driven sell-offs.

BOX: Tokenisation: New technology for more efficient financial infrastructure?

Tokenisation includes many functionalities. The term is used, among other things, to describe the transformation of traditional assets – such as money and securities – into digital tokens. In this respect, tokens are a digital representation of an underlying asset. Some of the advantages of tokenisation are that transactions can be made in real time, without traditional intermediaries, on a shared platform.[48] Today, tokenisation is used in a very limited way in securities markets and for payments. However, the use of tokenisation may increase in the future.[49] Several international organisations, including the Bank for International Settlements (BIS), have drawn attention to the potential of tokenisation to change the financial system, including how securities trading occurs.[50] For this reason, tokenisation became a priority for the G20 in 2024. A more extensive use of tokenisation may bring both advantages and stability risks.

Figure 1 Simplified overview of the current securities transfer system



A securities transaction today consists of two legs, one for the payment and one for the security (see figure 1). These are handled by different systems that communicate via a messaging system. Payment takes place through a transfer of money from the buyer's bank to the seller's bank. The central securities depository in which the security is registered, for instance Euroclear, then updates its register with the new owner.[51]

[48] See for example *Annual Economic Report*, June 2022, BIS, and *The Tokenisation of Assets and Potential Implications for Financial Markets*, March 2020, OECD.

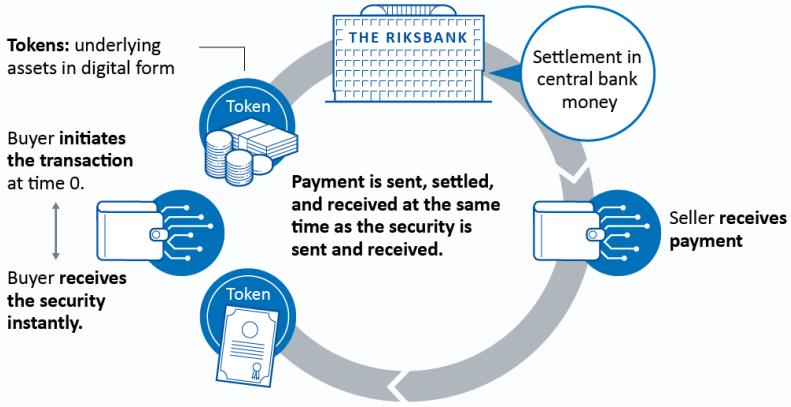
[49] Both private and public actors are experimenting with tokenisation. An example is Project Agorá, a public-private partnership led by the BIS, which explores how tokenisation and programmability can create incentives and enable new types of transaction.

[50] See *Tokenisation in the context of money and other assets: concepts and implications for central banks*, October 2024, BIS, and Chapter 3 "The future monetary system", in *Annual Economic Report*, June 2022, BIS.

[51] See "Transactions when trading securities" in *The Swedish financial market*, June 2024, Sveriges Riksbank.

Market practice is that a securities transaction takes two days from initiation to settlement.[52] It is only when settlement is completed that the buyer receives the security and the seller receives the money. During these two days, there is a risk that the seller will not deliver the security or that the buyer will not pay. Tokenisation handles this risk by automating and executing transactions in real time (see figure 2). As both buyer and seller receive their respective parts of the transaction at the same time, the procedure reduces both risks and costs. Automation in this context means that a token can be programmed. Regulatory compliance, such as with anti-money laundering rules, can, for example, be programmed into a transaction.[53]

Figure 2 Simplified view of a tokenised system



Tokenisation may also pose risks to financial stability.[54] For Sweden, the advantages of tokenisation are likely to be largest within cross-border currency and securities markets. In these markets, it is unlikely that all participants would agree on a shared platform. This risks resulting in a fragmented market. This can mean that different platforms offer trade with tokenised assets and follow different standards without sufficient coordination. The possibility that these platforms could be owned by third parties can also pose a risk (see box "Third-party risks in a more digital and connected financial sector"). Market fragmentation may also make liquidity management and risk monitoring more difficult, especially in times of market stress. Insufficient regulation also poses a risk, as many legal frameworks are not yet adapted to deal with tokenised assets. This may create uncertainty about who bears responsibility when technical problems or disruptions occur. A further risk is liquidity problems in the case of instant settlements, where market participants may not be able to adjust their positions in time. Many of the advantages attributed to tokenisation can also be achieved through the modernisation of financial infrastructure (see box "Instant payments in the Riksbank's settlement system").

[52] During these days, counterparty information is verified and the availability of securities and funds is confirmed. There are ongoing discussions within the EU to reduce the settlement time for securities transactions to one business day.

[53] See BIS project page. Accessed 4 November 2024. Project Mandala.

[54] See *The Financial Stability Implications of Tokenisation*, October 2024, FSB.

As shown in figure 1, central bank money is often used today as a means of settlement but this cannot be used in its current form on a tokenised platform. [55] An adapted type of token minted by a central bank, a so-called Central Bank Digital Currency (CBDC), is needed instead.[56] In the absence of a CBDC for settlement, other means of payment, such as *stablecoins*, have to be used.[57] However, these are not as secure as central bank money. If tokenisation occurs on a larger scale, it is important that central banks are ready to act and that settlement can take place risk-free in central bank money.

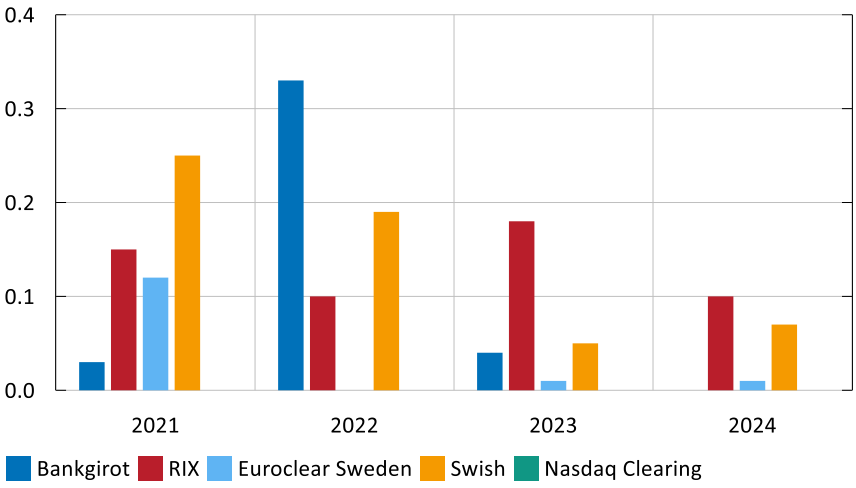
4.3 The financial infrastructure is working well but is facing major change

High availability in the financial infrastructure

In 2024, the majority of all payments and securities transactions in the Swedish financial infrastructure systems have been executed on time. Nasdaq Clearing and Bankgirot had no outages in the first three quarters of 2024, while the other systems had only short outages (see chart 27). All systems resumed availability within two hours, which is the target level according to international principles.[58]

Chart 27. Interruptions in FMIs

Per cent



Note. Outages refer to the percentage of total availability. 0 per cent means full availability and 0.2 per cent means five hours of outages over a period of one year. For Swish, 0.2 per cent downtime refers to approximately 17.5 hours, as the service is available every day, 24 hours a day. RIX refers to RIX-RTGS. RIX-INST is included in Swish. The data for 2024 refers to Jan–Sep.

Sources: BankID, Bankgirot, Euroclear Sweden, Getswish, Nasdaq Clearing and the Riksbank.

[55] See R. Garrat and H.S. Shin (2023), ”Stablecoins versus tokenised deposits: implications for the singleness of money”, BIS Bulletin, and L. Wiberg (2024), ”Settlement in central bank money from a financial stability perspective”, Economic Commentaries no. 2, Sveriges Riksbank.

[56] See Payments Report, June 2024, Sveriges Riksbank.

[57] See H. Eklööf (2022), “Stablecoins are intended to maintain a stable price over time”, Staff Memo, May, Sveriges Riksbank.

[58] See Principles for financial market infrastructures, April 2012, CPMI-IOSCO.

It is important that the harmonisation work continues

For a long time, the Riksbank has been pointing out that the Swedish payment and securities markets need to be future-proofed. Over the past year, the Riksbank has taken the necessary decisions to promote this. Among other things, the Riksbank has decided to go further in the process of using the Eurosystem's technical platform, T2, for the settlement of large-value payments.[59] In connection with the decision, the Riksbank announced that it will switch to the T2S technical platform for securities settlement in Swedish kronor in the future. Connecting to the new platforms will improve the conditions for stable and efficient payment and securities systems.

The accession of securities settlement to T2S will require that Swedish securities market participants align themselves with the European standards agreed by the National Stakeholder Group.[60] The transition to T2 takes place first, which creates scope for the participants to implement measures to harmonise Swedish securities settlement with the rest of the EU. This harmonisation work has started and it is important for the participants to work together to make progress.

Modernisation of the payment infrastructure has started

Bankgirot has continued to develop a future retail payment solution, modernising the payment system and harmonising it with the European standard for payments. Among other things, the new solution will make it possible for both Bankgirot and the banks to comply with the international messaging standard, ISO20022. This allows information to be sent in a more structured and detailed way than with previous formats, which also entails a strengthening of anti-money laundering efforts by participants.

The transition to a new system may entail a temporary increase in operational risks. To prevent any impact on the payment system, it is necessary for Bankgirot to ensure the availability of the existing system while developing the new one. Bankgirot has intensified its work over the year, which the Riksbank welcomes. The change also requires participating banks to modernise their systems and adapt their organisations. It is important for the transition to the new solution that this work also continues.

[59] See Press Release from the Riksbank, June 2024. The Riksbank wants to use the European T2 platform for payment settlement.

[60] See Harmonisation road map for the Swedish post-trade securities market, January 2021, Coordination Forum for Swedish Post-Trade Harmonisation.

BOX – Instant payments in the Riksbank's settlement system

The volume of instant payments has increased in recent years and new types of payment services for these payments are expected in the future. Instant payments are payments that are transferred and become available in the recipient's account immediately, regardless of the time of day. This allows for a faster cash flow and reduces the risk of payment delays, and can thus contribute to a more efficient payment system. In Sweden, instant payments account for around 40 per cent of the total volume of credit transfers.[61] The corresponding share in the euro area is just under 20 per cent, although the volume varies from country to country.[62] In spring 2024, the Instant Payment Regulation (IPR) entered into force in the EU, which aims to increase the use of instant payments.[63] This means that payment service providers that previously offered regular payments between euro accounts will also be obliged to offer the possibility to send and receive instant payments. This is a step towards harmonising and streamlining the European payments market, both within and across borders.

Instant payment settlement services can be provided by private operators or central banks. The new regulation does not favour any alternative as long as the operator meets the requirements. Since March 2024, instant payments have been settled at the Riksbank in RIX-INST, instead of at Bankgirot as previously. The purpose of the Riksbank taking over settlement in Sweden is increased cost efficiency and economies of scale as the Riksbank shares a technical platform with other central banks. Joining the platform also means harmonisation with the rest of the EU member states.

RIX-INST uses real-time settlement for instant payments, which means that payment is settled before the recipient is credited with the amount. Thus no credit risks arise. For participants in the Riksbank's RIX-INST and RIX-RTGS services, it is possible to transfer liquidity between accounts in the services 23 hours a day.[64] Furthermore, participants in RIX-RTGS can pledge collateral to gain access to credit that creates liquidity. This liquidity can also be used for payment settlement in RIX-INST. The risk of a payment service provider being unable to settle due to a lack of liquidity is thereby low.

On the other hand, instant payments can make it more difficult to carry out checks, for example to prevent fraud and money laundering. It is important that the banks take their responsibility for reducing these risks. Furthermore, systems such as RIX-INST that allow for round-the-clock and real-time payments may entail increased operational risks. It is therefore important to monitor the development of instant payments to ensure a resilient and robust system.

[61] See *Payments Report 2024,* March 2024, Sveriges Riksbank.

[62] See the European Payments Council website. Accessed 4 November 2024. *SEPA Instant Credit Transfer*.

[63] Regulation (EC) No 2024/886 of the European Parliament and of the Council as regards instant credit transfers in euro.

[64] RIX-RTGS is the Riksbank's settlement service for large-value payments and is an abbreviation for Real Time Gross Settlement. Between 18:00 and 19:00 it is not possible to transfer liquidity between services.

ARTICLE – Macroprudential measures safeguard the resilience of the household sector

Historically, economic crises have often been preceded by strong credit expansion. In Sweden, household indebtedness has increased significantly in recent decades. This has made the household sector, and by extension the Swedish economy, more vulnerable. This is why Finansinspektionen has introduced the mortgage cap and amortisation requirements, which are borrower-based macroprudential measures. These measures safeguard the resilience of the household sector while countering a future trend of rapid growth in the share of highly indebted households. However, these measures may also entail costs. For example, they can affect households' consumption choices over the life cycle or make it more difficult for financially vulnerable groups to buy a home. It therefore makes sense to evaluate the measures periodically to see if there are more cost-effective alternatives that achieve the same objectives. However, changing macroprudential policy in such a way as to increase household indebtedness is not a long-term sustainable solution.

Supply problems and taxes affect housing prices

In a well-functioning housing market, housing and construction follow the needs of households and there are different types of housing for all income levels. This makes it easier for households to move to places where there are jobs or educational possibilities and for companies to locate where they want. It also means that labour and capital can be allocated efficiently in the economy.[65]

Unfortunately, the Swedish housing market is far from this ideal. In many parts of the country, construction has been too low in relation to the rate of population growth. What has been built has not necessarily matched the demand.[66] At the same time, the existing housing stock is inefficiently utilised and there are long waiting lists for rental

[65] Studies show that cities are favoured by migration from other parts of the country; see, for example, A. Bergh and M. Nordin (2022), "Inkomstutveckling för människor från glesbygd och storstad" [Income development for people from sparsely populated areas and large cities], *Ekonomisk Debatt* 50 (2).

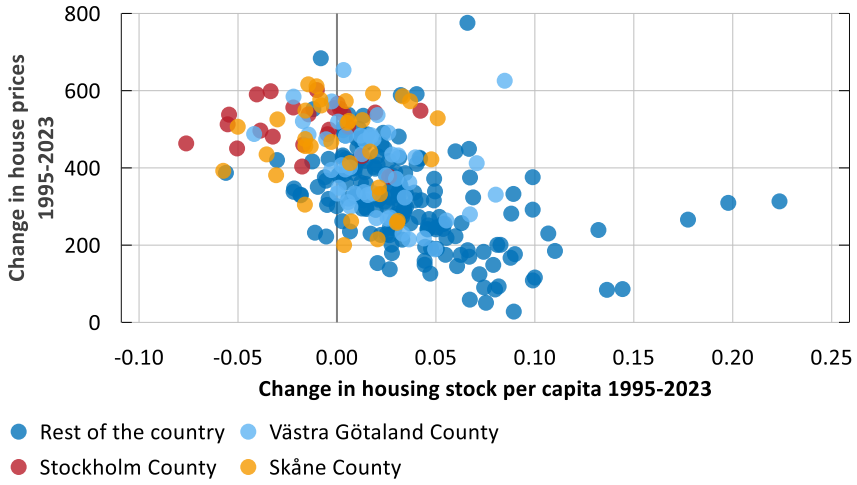
[66] The reasons why construction has not kept pace with demand include high material costs, not enough land for new construction where demand is high and extensive and complex planning processes. The fact that construction costs are high compared to other countries is partly due to a lack of competition and the high demands that legislation places on new housing, for example in terms of noise levels, lifts and disabled toilets; see R. Emanuelsson (2015), "Supply of housing in Sweden", *Economic Review*, 2015:2, Sveriges Riksbank.

apartments in the regulated stock.[67] Households that quickly need to find a home risk being referred to expensive sublets or newly built rental apartments where rents are high, or encouraged to buy a home.

The supply problem has also contributed to the significant rise in house prices, particularly in large cities and growth centres. In the municipality of Stockholm, for example, house prices have increased by almost 600 per cent between 1995 and 2023.[68] At the same time, the total number of homes per capita has decreased in the municipality over the same period (see chart 28).

Chart 28. Changes in house prices and housing stock in Swedish municipalities

Per cent



Note. Each point refers to one of Sweden's 290 municipalities. Knivsta and Nykvarn are excluded due to reclassifications.

Sources: Statistics Sweden and the Riksbank.

In addition to frictions hampering the supply of housing, the rise in prices can be explained by an increase in household demand for housing. This is due, among other things, to lower interest rates, higher wages and underlying trends in urbanisation and demographics.[69] The tax system also allows mortgagors to deduct 30 per cent of interest expenses. In addition, the property tax was replaced by a lower municipal property charge at the beginning of 2008.

[67] According to each regional housing agent, the average waiting time to be offered a rental contract is 9 years in Stockholm, almost 7 years in Gothenburg, 3.5 years in Malmö and 5 years in Uppsala.

[68] The price rise can be compared with the increase in consumer prices according to the CPIF, which has been 69 per cent, and the increase in disposable household income, which has been 223 per cent, over the same period.

[69] For example, the population has grown rapidly at the same time as many households have been of family-forming age; see "Drivers of household indebtedness", annex to the July 2015 meeting of the Financial Stability Board.

Higher indebtedness and low amortisation rates

As housing purchases are financed by a large share of mortgages, rising prices have gone hand in hand with increasing household debt. Overall, bank lending collateralised by housing has increased more than fivefold between 2002 and 2024, from SEK 800 billion to over SEK 4,000 billion. As a consequence, household debt as a share of GDP is now high from both a historical and an international perspective (see chart 29, left).

Microdata on the stock of mortgages show that households have become more indebted in relation to their income. During the period 2010–2017, this was true for all age and income groups across Sweden but young people's indebtedness had increased the most.[70]

Among new mortgagors, similar patterns are observed as for the mortgage stock. The share of households with high debt-to-income ratios has increased since 2011. Since the stricter amortisation requirement was introduced in 2018, there have been signs that the proportion of new mortgagors with a debt-to-income ratio of over 450 per cent has decreased and that a larger share of new mortgagors are borrowing up to exactly 450 per cent of their gross income to avoid being subject to the requirement (see chart 29, right).[71] FI's latest mortgage survey shows that there are now even fewer households with a debt-to-income ratio of over 450 per cent. It also shows that around 83 per cent of new mortgagors amortise.[72] The corresponding share in 2011 was 42 per cent.

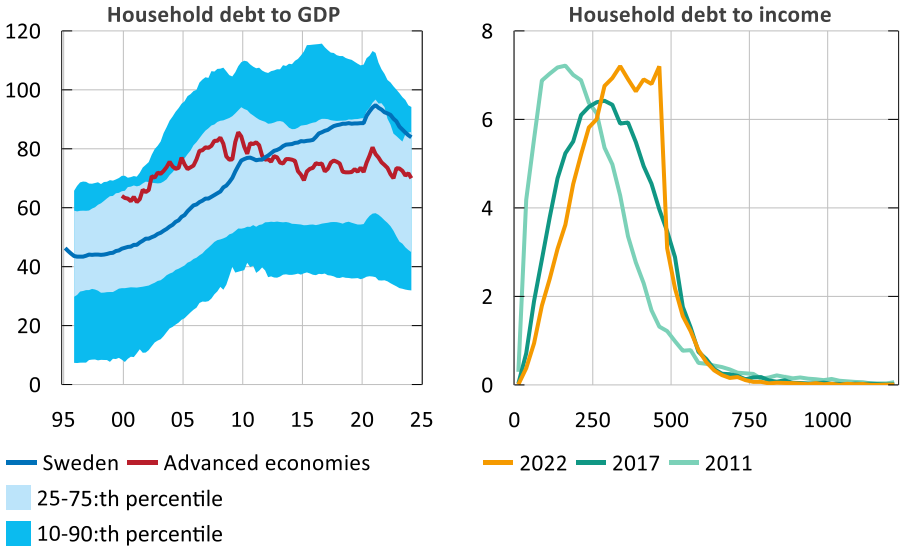
[70] See J. Eng Larsson, K. Hallsten and M. Kilström (2018), "Indebtedness in various age groups in Sweden", *Staff memo*, March, Sveriges Riksbank. The survey covered approximately 3 million individuals. Since 2018, the Riksbank no longer has access to this type of microdata.

[71] Under the first amortisation requirement, households taking out a mortgage with a loan-to-value ratio (loans in relation to the value of the home) of more than 50 per cent must amortise 1 per cent of the loan per year. Households with a loan-to-value ratio of more than 70 per cent must amortise 2 per cent of the loan per year. Under the stricter amortisation requirement, borrowers with a debt-to-income ratio (total mortgages in relation to annual income before tax) of more than 450 per cent need to amortise an additional 1 per cent of the loan per year. Under the mortgage cap, new mortgages with the home as collateral should not exceed 85 per cent of the market value of the home.

[72] See *The Swedish mortgage market 2023*, April 2024, Finansinspektionen.

Chart 29. Household debt and distribution of debt-to-income ratios among new mortgagors

Per cent



Note. In the left-hand chart, the intervals include 23 different countries. Developed economies in this context are defined by the BIS as including Australia, Canada, Denmark, the euro area, Japan, New Zealand, Norway, Sweden, Switzerland, the United Kingdom and the United States. The right-hand chart shows new mortgagors' total loans in relation to gross income.

Sources: BIS, Finansinspektionen and the Riksbank.

Risks to the real economy and financial stability

Financial imbalances can occur when risk-taking increases among economic agents and also coincides with rapidly rising debt and asset prices. These can amplify fluctuations in the economy and thus pose risks to both macroeconomic and financial stability. For example, they may lead many households to choose or be forced to make major adjustments to cope with higher interest payments or lower wealth. Households may then reduce their consumption or adjust their savings, amplifying the economic downturn.

The propagation channels to the financial system can be both *direct* and *indirect*. If households have large debts, short mortgage fixation periods and limited liquid assets, a shock such as higher interest rates could lead to difficulties in servicing their loans.[73] This has *direct* consequences for banks by increasing their loan loss provisions. But it can also have *indirect* consequences for banks. If consumption falls sharply, companies may have to adjust their demand for labour as a result of lower profitability or, in the worst case, go bankrupt. In addition to potentially increasing banks' loan loss provisions, households' debt-servicing ability also deteriorates. This can affect the value of homes and other assets.

[73] In Sweden, mortgage fixation periods are generally short. This is also true in an international perspective. In recent years, 60–70 per cent of all mortgages are taken out at a variable rate that changes every three months.

In Sweden, house prices are closely linked to bank funding. This is because banks finance some of their mortgages by issuing covered bonds backed by mortgages. A major fall in housing prices affects the value of the cover pool backing the covered bonds. This may affect confidence in banks, which may then be forced to renew their funding at a higher price. This could lead to both higher interest rates and lower credit supply in a period when the financial situation of borrowers is already strained, which could further amplify the downturn. The fact that the Swedish banking system is also concentrated and closely interconnected may cause problems to spread rapidly in the financial system. It is interconnected, among other things, by the fact that banks own each other's covered bonds.

These systemic risks are also affected by agents' expectations about the future. Historically, economic crises have been preceded by periods with a spiral of loans, asset prices and expectations among households and banks that this trend will continue. This can lead to assets becoming highly valued and households borrowing against them to increase their consumption.[74] This was characteristic of countries such as Denmark in the years before the global financial crisis. When the trend turns, the spiral can have a major negative impact on overall demand. Thus, if households have overly optimistic expectations, the effects of a shock may be amplified through their balance sheets and cash flows. However, the shock may also be amplified by homes being overvalued and housing prices falling more than they would otherwise have done.

From a Swedish perspective, it is above all the risks to macroeconomic stability and the more indirect effects on the financial system that are most significant. This is partly due to institutional factors, such as unemployment insurance and the personal liability of households for their loans.[75] During the Swedish financial crisis in the early 1990s, loan losses on mortgages were relatively small.[76] By contrast, consumption fell sharply, amplifying the impact on the real economy.

In a crisis, when household incomes decrease rapidly or housing prices fall, the problems can be mitigated by expansionary economic policy. There is currently considerable scope for fiscal policy, as Swedish public sector consolidated gross debt is low, at just over 30 per cent of GDP. In addition, the Riksbank can lower the policy rate and, via mortgage rates, affect households' interest expenses. This happened, for example, during the global financial crisis. But there are risks in placing too much faith in what monetary policy can achieve. In addition, the Riksbank's ability to conduct an expan-

[74] Several studies find that high indebtedness is correlated with high sensitivity to economic shocks. Studies also show that the rate of increase of debt, rather than its level, is a better risk indicator, especially if increased debt is used to finance increased consumption; see, for example, the literature review in P. Englund (2023), "Makrotillsynsregleringar och finansiell stabilitet" [Macroprudential regulation and financial stability], Annex 4 to the *Long-Term Survey* 2023.

[75] The recession following the global financial crisis was longer and deeper in US states where banks have greater access to borrowers' income than in other states; see P. Gete and F. Zecchetto (2024), "Mortgage design and slow recoveries: The role of recourse and default, *Review of Economic Studies*, 91 (2).

[76] The household sector accounted for 13 per cent of the banks' reported loan losses in 1990 and 7 per cent in 1991; see K. Eklund, A. Lindbeck, M. Persson, H. Tson Söderström and S. Viotti (1993), "Fast kurs med flytande krona" [Fixed exchange rate with a floating krona], *Swedish Economic Research Council report*, 1993, SNS.

sionary monetary policy may be limited by various factors. These may include, for example, rising risk premiums, a lack of scope to cut the policy rate when it is close to its lower bound or rising inflation. The monetary policy trade-off can also be complicated by the fact that the krona exchange rate and ultimately inflation are affected if the interest rate level deviates significantly from that of other countries.

Risk assessment hampered by lack of data

It is difficult to quantify how big the risks are or how they could develop in the future. The likelihood of a disruption occurring is also unknown. It can certainly be noted that the risks on the housing market are not constant but vary over time depending on the development of various underlying explanatory factors. However, it will never be possible to determine, with certainty, the right time to adopt measures to dampen a development that is not necessarily sustainable in the long term. One factor that further complicates the risk assessment from a Swedish perspective is the poor availability of microdata on household assets, consumption and savings.

Studies highlight the importance of households having liquid assets in the event of a shock.[77] Aggregate data show that the savings ratio and liquid assets are high in Sweden (see chart 30, left). However, estimates from 2012 show that assets were unevenly distributed and that highly indebted households had relatively small liquid assets. Whether this is the case today is uncertain, although some information suggests it.[78]

Experience from the global financial crisis indicates that a high level of debt-financed consumption can contribute to the depth of the crisis. One indicator that can be used to estimate this is household consumption of durable goods, such as cars and boats, as such purchases sometimes need to be financed by loans. This indicator does not suggest that such consumption is more common in Sweden than in other countries (see chart 30, right). At the same time, microdata show that almost one-third of the increase in household mortgages in Sweden during the period 2011–2017 could be explained by households mortgaging their homes by making equity withdrawals.[79] Equity withdrawals also typically account for a large share of new mortgages taken out. However, it is not possible to obtain a comprehensive picture of the impact of the equity withdrawals on household resilience. This is because the purpose of the equity withdrawals is not shown in the data, for example whether it is used to renovate the home, to transfer wealth or to finance consumption.[80]

[77] See J. Almenberg, M. Kilström, V. Thell and R. Vestman, "Household debt and resilience in crises", *FI Analysis* No. 33, June 2021, Finansinspektionen.

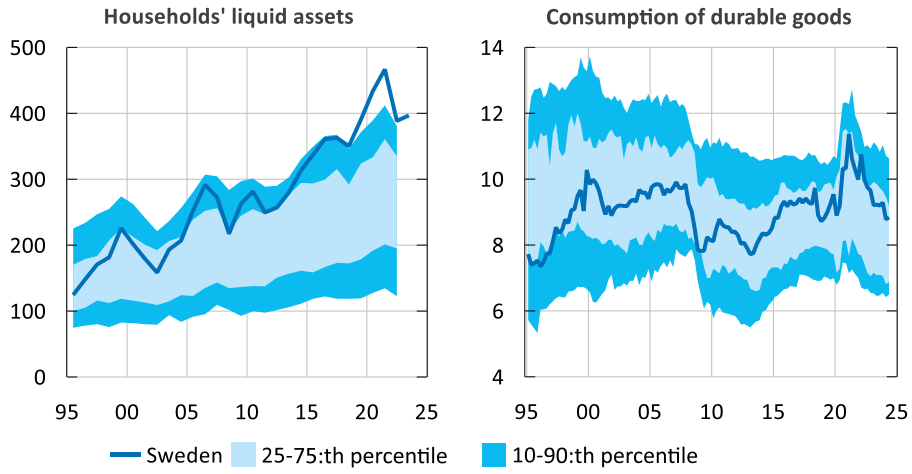
[78] See M. Andersson and R. Vestman (2021), "Liquid assets of Swedish households", *FI Analysis* No. 28, Finansinspektionen.

[79] See R. Emanuelsson, G. Katinic and E. Spector (2018), "Developments in the housing market and their contribution to household debt", *Economic Commentaries* No. 14, Sveriges Riksbank.

[80] Households appear to be using some of the increased borrowing to start companies and repay more expensive unsecured loans; see J. Li and X. Zhang (2017), "House prices, home equity and personal debt composition", *Working Paper* 343, Sveriges Riksbank. Some of the borrowing also appears to have been for home renovation; see *The Swedish mortgage market* 2021, April 2022, Finansinspektionen. Surveys also show that the proportion of surveyed households that have mortgaged their homes for consumption other than housing consumption has decreased in recent years; see R. Boije and S. Hansen (2024), "Hushållens bolån, Makroriskerna med dem är inte så stora som ofta hävdas" [Household mortgages: the macro risks associated with them are not as great as is often claimed}, *Insiktsrapport* [*Insight Report] 6*, May, SBAB.

Chart 30. Household liquid assets and consumption of durable goods

Per cent, share of disposable household income and total household consumption



Note. The ranges are based on 26 countries. Household liquid assets refer to bank deposits, foreign exchange, mutual funds and equities.

Sources: OECD, national sources and the Riksbank.

Macroprudential measures to reduce systemic risks

The supply problems in the Swedish housing market and the design of the tax system create negative externalities in the form of increasing household demand for mortgages. These externalities can be mitigated by structural reforms in housing and tax policies. But even if such reforms are implemented, household indebtedness could still be higher than is justified from a broader economic perspective. This is because neither households nor banks take into account the risks that their borrowing and lending decisions may entail for the whole economy.[81] Such a market failure may need to be addressed by some form of regulation. According to the IMF, BIS and European Systemic Risk Board (ESRB), macroprudential measures are appropriate to mitigate systemic risks arising from market failures in the housing and mortgage markets.[82]

In simple terms, macroprudential measures can be said to have two main tasks. First, they should strengthen the resilience of the financial system as a whole. Second, they should discourage excessive increases in credit and indebtedness that, when sentiment changes, can lead to a credit crunch and a sharp and prolonged fall in demand.[83]

[81] For example, banks can relax credit conditions to avoid losing market share. When making mortgage decisions, households probably do not take into account that reduced consumption may lead to profitability problems for companies. Neither are they likely to take into account that selling homes during an economic downturn can contribute to a fall in prices if many households sell at the same time. Unemployment insurance safeguards households and also indirectly protects banks. But it can lead to neither households nor banks making as careful risk assessments as they would if there were no safety nets.

[82] See G. De Nicolò, G. Favara and L. Ratnovski (2012), "Externalities and macroprudential policy", *IMF Staff Discussion Note*, June.

[83] See B. Lagerwall, B and G. Guibourg (2015), "How is the economy affected by macroprudential measures?", *Economic Commentaries* No. 9, Sveriges Riksbank.

Both the Riksbank and Finansinspektionen (FI) have assessed that the substantial credit expansion in Sweden over recent decades has led to financial imbalances and that it has given rise to systemic risks. To increase resilience, FI introduced increased capital requirements for banks, such as higher risk weights on mortgages. To also reduce indebtedness, FI also introduced three borrower-based measures, i.e. measures that more directly affect households' ability to borrow: the mortgage cap (2010), the amortisation requirement (2016) and the stricter amortisation requirement (2018).[84] The measures have been characterised by a structural approach and are thus measures that are not intended to vary over time. They have been presented primarily as preventive measures to create buffers against future shocks.[85]

Overall, FI's evaluations show that the measures have had the intended effect.[86] The Riksbank shares this assessment. The measures have contributed to a lending environment where high loan-to-value ratios and interest-only mortgages are no longer a competitive tool among banks, as was the case in the early 2000s. In addition, both the amortisation requirements and the mortgage cap have contributed to households borrowing less, buying cheaper homes and amortising more than they would otherwise have done. Microdata also show that the share of households with a debt-to-income ratio above 450 per cent has decreased and that the measures have had a normalising effect (see chart 29, right). Those who nevertheless choose to take out large loans in relation to their income are paying them off at a rapid pace. The measures are thus slowing down a future development in which the share of highly indebted households grows rapidly. In addition, the amortisation culture has improved, which will strengthen household resilience over time. Overall, this is judged to have reduced the systemic risks associated with household mortgages. However, the lack of microdata makes it difficult to analyse how the measures have affected the rest of households' balance sheets, such as the level of their liquid assets, and thus their resilience in the short term.[87]

Increased flexibility has both advantages and disadvantages

As with any regulation, borrower-based measures can also incur costs. Here, the state of knowledge has advanced in recent years. However, the number of crisis episodes is

[84] When the mortgage cap was introduced in 2010, FI justified it by counteracting unsound lending on the mortgage market and strengthening consumer protection.

[85] According to the IMF, 71 countries have introduced loan restrictions in the form of mortgage caps, 16 countries have introduced debt-to-income ratio limits, 60 countries have introduced debt servicing limits (interest and amortisation) and 45 countries have introduced amortisation requirements in the form of a amortisation rate requirement, limits on the proportion of interest-only loans or limits on the maturity of the loan. Overall, the measures are justified on the grounds that they improve the resilience of creditors and borrowers. A few countries have complemented their resilience objectives with targets to dampen the credit or house price cycle.

[86] See *Overall assessment of macroprudential policy measures*, 2021, Finansinspektionen.

[87] Studies indicate that a stricter mortgage cap may contribute to a temporary and longer-term reduction in households' liquid assets and lead to greater fluctuations in consumption; see K.A. Aastveit, R.E. Juelsrud and E. Getz Wold (2022), "The leverage-liquidity trade-off of mortgage regulation", *Working paper*, Norges Bank.

low, while access to microdata in several countries is poor. Moreover, there are structural as well as institutional differences between countries that should make one cautious about drawing too far-reaching conclusions from individual studies.

Some studies suggest that mortgage contracts that provide flexibility in debt payments can contribute to greater stability by temporarily reducing debt payments for households in certain situations.[88] This is especially true for households that change their consumption a lot when their disposable income changes, i.e. those with a high marginal propensity to consume. Such contracts provide better conditions for households to maintain their consumption in the event of a shock to the economy, thereby reducing the risk of reduced consumption amplifying the shock.

In Sweden, the amortisation requirements apply to households with high loan-to-value ratios or loan-to-income ratios. This reduces the incentives for households to take out large loans, thereby helping to make them less vulnerable to various shocks. However, life situations and supply problems in the housing market mean that households may still need to take out large loans. The fact that these households have their cash flows tied up in larger amortisation payments may make it more difficult for them to smooth their consumption in the short term and, for example, to cope with loss of income or cost shocks.[89] It is therefore positive that the amortisation requirements are designed with a degree of flexibility whereby mortgagors can be exempted for special reasons, such as unemployment. There may also be grounds for analysing whether a broader exemption that also covers various types of cost shocks that are not included in banks' current credit assessments could reduce the risk of the amortisation requirements in certain situations reinforcing an economic downturn.[90]

Overall, borrower-based measures are blunt measures that do not take into account borrowers' individual circumstances. For example, they may delay the entry of households into the owner-occupied housing market.[91] To try to avoid this, several countries have chosen to exempt certain groups of borrowers, for example first-time buyers or young people, or introduced flexibility quotas for banks in new lending.[92] A lesson learnt from these countries is that it is then important to design the exemptions in a way that creates incentives for banks to lend to the targeted groups. In the United Kingdom, for example, it is mainly borrowers with the largest loan amounts that

[88] See J. Almenberg, M. Kilström, V. Thell and R. Vestman, "Household debt and resilience in crises", *FI Analysis* No. 33, June 2021, Finansinspektionen.

[89] The impact of amortisation requirements on households' ability to cope with shocks also depends on whether households finance the increased amortisation payments by saving or consuming less. In the Netherlands, households financed increased mortgage repayments by reducing their consumption; see A. Bernstein and P. Koudijs (2021), "The mortgage piggy bank: Building wealth through amortization", *Working Paper* 28574, NBER.

[90] General amortisation relief in times of crisis, which FI introduced during the pandemic, can improve households' ability to cope with shocks; see J. Campbell, N. Clara and J. Cocco (2021), "Structuring mortgages for macroeconomic stability", *Journal of Finance* 76 (5).

[91] See the discussion in P. Englund (2023), "Macroprudential regulation and financial stability", Annex 4 to the *Long-Term Survey* 2023.

[92] For example, Ireland, Finland, Luxembourg, the Czech Republic and Iceland have slightly less strict loan restrictions for first-time buyers or young people. Norway, New Zealand, Ireland and the United Kingdom have introduced flexibility quotas linked to their debt-to-income limits – these allow banks to issue a certain proportion of mortgages above the requirement.

banks have chosen to exempt from the rules. These borrowers are often wealthy households rather than young households with potentially favourable income growth.[93] Since the price of a home is set by the marginal buyer, increased flexibility can lead to higher house prices and debt. Studies have shown that relatively small parts of the population can drive price developments in the housing market.[94] One disadvantage of higher prices is that they may reduce the ability of financially weaker households to buy a home. In Sweden, it seems to be the high housing prices and not the amortisation requirements that are the main reason why, for example, young people find it difficult to buy a home.[95]

Borrower-based measures can have a dampening effect on housing prices and thus also on the construction of new homes.[96] In Sweden, the amortisation rules allow banks to exempt borrowers from amortisation if they have a mortgage secured by a newly built home. It is up to the bank to assess how exemptions should be used – according to FI's evaluations, seven out of eight banks currently grant exemptions even though not all applications are granted.[97] The exemption is designed to provide cash flow relief to the borrower. However, amortisation remains part of the banks' credit assessment and thus limits the scope for borrowing in a similar way to other borrowers subject to the requirements. The actual impact of the exemption on construction is yet to be determined, although it may contribute to slightly higher prices for newly built homes and thereby to more construction. However, studies show that the economy is better served by a policy mix that stimulates additional housing supply through changes in building regulations and improved allocation of existing stock rather than through increased price levels resulting from greater risk-taking in the household sector.[98]

The resilience of the household sector needs to be safeguarded

Recent years have shown how quickly and unexpectedly the economic situation can change and how important it is for economic agents and the financial system to be highly resilient to shocks. The rapid rise in inflation and interest rates led Swedish households to reduce their consumption quite considerably, both from a historical

[93] See J-L Peydró, F. Rodriguez-Tous, J. Pripathy and A. Uluc, (2024), "Macroprudential policy, mortgage cycles, and distributional effects: evidence from the United Kingdom", *The Review of Financial Studies*, 37 (3).

[94] See A. Mian and A. Sufi (2019), "Credit supply and housing speculation", *Working paper 24823,* NBER.

[95] In larger cities, where housing prices are higher, the requirements are more binding; see N. Olsén Ingefeldt and V. Thell (2019), "Young adults and the housing market", *FI Analysis* No 19, Finansinspektionen.

[96] See M. Bjellerup and L. Majtorp, L. (2019), "The development of housing prices", *Focus Report*, Swedish National Debt Office.

[97] Six out of eight banks grant exemptions in some cases, following an individual assessment of the need, see "*Bankernas hantering av undantag från amorteringskrav vid nyproduktion" [Banks' handling of exemptions from amortisation requirements for newly constructed homes]*, February 2024, Finansinspektionen.

[98] See D. Aikman, R. Kelly, F. McCann and F. Yao (2021), "The macroeconomic channels of macroprudential mortgage policies", October, Central Bank of Ireland. Studies show that the abolition of the ban on interest-only loans in Denmark did not have a major effect on construction and did not improve opportunities for young people to own their own home; see C. Bäckman and C. Lutz (2020), "The impact of interest-only loans on affordability", *Regional Science and Urban Economics* 80.

perspective and compared with other countries. However, the resilience of mortgagors has been relatively good. One contributing factor to this is that the labour market has weathered the economic downturn relatively well. In addition, many households were able to use the savings buffers they built up during, for example, the pandemic. Furthermore, the combination of amortisation requirements, mortgage caps and banks' credit assessments safeguarded resilience in the household sector. Without these measures, households would not have been as well equipped and the systemic risks associated with household mortgages would have been greater. Economic developments could have been much worse if the Riksbank had needed to raise the policy rate even more to combat inflation. This would have been particularly true if more households had had large loans relative to their income.

The borrower-based measures seek to address market failures in the housing and mortgage markets. They involve a trade-off between limiting the room for manoeuvre of households and banks and preventing the build-up of risks in the economy. They are based on a general precautionary principle and on an overall assessment of complex risks. The risk assessment is also hampered by lack of data. However, knowledge about the revenue and costs of different measures is constantly evolving and it is useful to evaluate them at regular intervals. This makes it possible to see if they have the desired effect or if there are more cost-effective alternatives that achieve the same objectives.

Increased flexibility for banks in new lending can bring benefits. If properly designed, greater flexibility could, for example, make it easier for young, creditworthy households with little liquid assets to buy a home. At the same time, there may be drawbacks to making macroprudential policy less stringent. For example, they risk causing both housing prices and debt to rise again in a way that is undesirable for society. This is particularly true if the changes take place in a period when monetary policy becomes less contractionary. Directing more debt-financed purchasing power towards a housing market characterised by several supply problems is not a long-term sustainable solution. Instead the fundamental problems need to be solved and the necessary structural measures taken to create a better functioning housing market. Moving forward, such policy measures would also favour those who want to enter the housing market.

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