

Financial Stability Report

2020:2



S V E R I G E S R I K S B A N K

The Riksbank's Financial Stability Report

The Riksbank's Financial Stability Report is published twice a year. In the report, the Riksbank gives an 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 therefore directly linked to the Riksbank's task of promoting a safe and efficient payment system. By publishing the results of its analysis, the Riksbank wishes to draw attention to, and warn of, risks and events that might 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 28 October and 10 November 2020. The report is available on www.riksbank.se. The Report takes into account developments up to and including 4 November 2020.

The Riksbank and financial stability

- The Riksbank has a mandate from the Riksdag (the Swedish parliament) to promote a safe and efficient payment system. Achieving this requires a stable financial system so that payments and the supply of capital function well. In practice, this task means that the Riksbank is responsible for promoting financial stability. The Riksbank defines financial stability as the financial system being able to maintain its three basic functions – the mediation of payments, risk management and the conversion of savings into funding – and being resilient to shocks that threaten these functions.
- The Riksbank can provide liquidity support to financial institutions if problems arise that threaten financial stability. To be able to do efficiently, the Riksbank needs to be well prepared for crises by having an efficient crisis organisation with good information channels and tools for analysis, as well as well-developed cooperation with other authorities.
- The Riksbank does not have the sole responsibility for promoting financial stability. It shares this responsibility with the Ministry of Finance, Finansinspektionen (FI, the Swedish financial supervisory authority), and the Swedish National Debt Office. The Ministry of Finance is responsible for the regulation of financial companies, FI for supervision and the Swedish National Debt Office for the government's management of banks in crisis. The interaction between the authorities is important both in the preventive work and in the event of a crisis materialising. Good cooperation with other countries is also important, as financial companies operate largely across national borders.
- The financial system plays an important role in the economy. It is necessary to have a stable and smoothly running financial system for the economy to function and grow. A serious crisis in the financial system risks leading to considerable economic and social costs.
- The financial system is sensitive. This is due to the vulnerability of central parts of the system, such as banks and markets. Banks are vulnerable mainly because they fund their operations at short maturities but lend at longer maturities. This imbalance makes them dependent on public and market confidence. If market participants lose confidence in their counterparties or in the financial instruments traded on the market, serious problems may rapidly arise. The various parts of the financial system are also closely interconnected as, for example, financial institutions often borrow from and trade with one another. This means that problems arising in one institution or market can rapidly spread throughout the system. Spillover effects may also arise if there is a general fall in confidence in similar activities.

- The combination of the sensitivity of the financial system and the large potential costs of a financial crisis means that the state has a particular interest in preventing threats to financial stability. This is because banks and other market participants do not have an incentive themselves to give full consideration to the risks to financial stability they may cause. This is due to some of the costs of a financial crisis falling to other agents both within and outside the financial system. If a crisis occurs, the state therefore needs to intervene, but at the lowest possible cost.
- The Riksbank analyses stability in the financial system on a continuous basis to enable the early detection of changes and vulnerabilities that may lead to a crisis. The focus of the analysis is on the five major banks in Sweden (Danske Bank, Handelsbanken, Nordea, SEB and Swedbank) and on the markets and infrastructure that are important for their funding and risk management.
- In some cases, the Riksbank recommends specific measures to counteract risks. These recommendations may be based on current economic developments. However, they may also relate to more structural circumstances relating to how a market functions, for example, and stem from current regulatory issues. The recommendations can be aimed at banks and other market participants, as well as at legislators and other authorities.

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IN BRIEF – the Riksbank’s stability assessment



The **support measures** implemented by governments, central banks and other authorities, both in Sweden and abroad, have ensured that the Swedish financial system has **so far coped** with the **challenges of the pandemic relatively well**.



The **risks** to financial stability are still **elevated**. The increased **spread of the coronavirus** means that restrictions and behavioural changes will slow down an **economic recovery** in the near term, and that **bankruptcies in the corporate sector** may increase significantly.



The **risks and vulnerabilities** that the support measures can build up in the longer term are **subordinate** to the need to combat the immediate economic consequences of the pandemic. The **timing** for **phasing out** the support measures, and **how quickly** this occurs, must be **chosen with considerable care**.



Banks need to do what they can to **supply sufficient credit** to companies and households. They may therefore need to **use** their capital and liquidity buffers, and should **refrain** from **paying dividends** to shareholders **until further notice**.



Resilience in the financial system needs to be **strengthened** again when the **economic situation permits**. If banks have **used** parts of their buffers, they need to **build up** sufficient **capital** and **liquidity** again. The established **regulations** on banks’ capital and liquidity should be **retained** and **not undermined**.



Measures are required to **reduce the risks** linked to **household indebtedness**. Measures are needed in both **housing and taxation policy**. If such measures are not implemented, new **macroprudential policy measures** may need to be introduced, or the measures already implemented may need to be **tightened** going forward. The **exemption** introduced in the **amortisation requirement** for Swedish households should **remain temporary**.



The **shortcomings** in the **corporate debt** market need to be addressed. It is particularly important to remedy the lack of **transparency**.



Climate-related risks need to remain an important part of the supervision and be integrated into the financial stability analysis. It is important to improve risk **reporting** and **statistics**.

1 Summary of the stability assessment

The support measures implemented by governments, central banks and other authorities, both in Sweden and abroad, have ensured that the Swedish financial system has so far coped with the challenges of the coronavirus pandemic relatively well. The support measures have helped to kick-start an economic recovery, improve the situation on many important financial markets, and avoid a financial crisis so far.

However, the way forward is very uncertain and the risks to financial stability are still elevated. The increased spread of the coronavirus means that restrictions and changes in behaviour will slow down an economic recovery in the near term, and that the number of bankruptcies in the corporate sector may increase significantly. In the longer run, the support measures could build up vulnerabilities, e.g. countries and companies may sharply increase their indebtedness.

The vulnerabilities that were in the financial system already prior to the crisis are also part of the risk outlook. These may both deepen and prolong the crisis. They include weak banks and public finances in the euro area, the high level of indebtedness among Swedish households, and large exposures to property among the banks in Sweden.

If the crisis now deepens and becomes more prolonged, further measures may be needed to support credit supply and safeguard financial stability.

The coronavirus pandemic has left deep scars in the global economy, but powerful support measures are alleviating the effects

The coronavirus pandemic has had a major impact on the global economy and GDP has fallen sharply in many countries. The corporate sector has been hit particularly hard, which has led to many people losing their jobs. However, an economic recovery has begun and the situation on many important funding markets has improved since the most acute crisis situation in the spring.

Although the effects on the world economy are very extensive, the worst scenarios described during the spring have not been realised. The number of restructurings and bankruptcies in the corporate sector has not increased to the extent that many had expected. Although banks' provisions for credit losses have increased, they are so far

relatively low and there are no clear signs of any credit crunch. Nor have housing prices fallen; on the contrary, they have risen in several countries.

That the effects have not been greater and that it has so far been possible to avoid a global financial crisis can be largely explained by unprecedented fiscal policy stimulus programmes coupled with measures taken by central banks and other authorities. The purpose of these support measures has largely been to alleviate the real economic consequences of the coronavirus pandemic and to avoid financial instability exacerbating the situation. Moreover, the regulations introduced since the global financial crisis in 2008-2009 have improved resilience in the global financial system.

From acute crisis to slight recovery in Sweden

The Swedish economy seems to have left the acute crisis situation of the spring behind it and started to recover slightly faster than expected.¹ However, the fall in Swedish GDP has been very substantial and redundancy notices and short-term layoffs increased sharply during the spring. Bankruptcies increased during the initial stage of the crisis, but from low levels. The Riksbank's analysis shows that many of the companies that went bankrupt were already in a weak position prior to the crisis. They were highly levered and had weak profitability.²

During the pandemic, rental income has declined for several Swedish property companies, but so far there have not been any major vacancies in their property stock. The Swedish housing market has developed strongly, and housing prices have risen since May.

The Swedish financial infrastructure functioned well during the spring. The systems of the financial market infrastructures (FMIs) have been stable with good availability, despite most of their operations being conducted from home, as is the case in the rest of society. All FMIs fulfil the minimum level for capital buffers, which is enhancing their preparedness to manage stressed situations.

No clear signs of a credit crunch, but uncertainty as to whether loans are accessible to all companies that need them

The credit loss provisions of the three major Swedish banks have only increased to a small extent and have had a limited effect on their capital adequacy.³ The banks' funding situation has improved gradually since the spring and is currently good. Overall, the banks' lending to households and companies has been stable. Lending rates rose somewhat in the initial stage of the crisis, and it was primarily large companies

¹ See *Monetary Policy Report*, September 2020. Sveriges Riksbank.

² See the article "Bankruptcies during the initial phase of the coronavirus pandemic" in this report.

³ The "major banks in Sweden" are Danske Bank, Handelsbanken, Nordea, SEB and Swedbank. The "major Swedish banks" are Handelsbanken, SEB and Swedbank.

that were granted bank loans, while smaller companies found it more difficult to obtain funding than prior to the crisis. During the late summer and autumn, interest rates in general have fallen and lending to smaller companies has increased.⁴ The support measures implemented both in Sweden and abroad have been a very important part of this development.

The situation on the Swedish corporate debt market has improved

One reason why bank lending to larger companies increased in the spring was that it became difficult to obtain funding on the corporate debt market. The Swedish market stopped functioning for a period. This also had spillover effects on other parts of the financial system.⁵ However, support measures from central banks, including the Riksbank's purchases of commercial paper and announcement of purchases of corporate bonds, helped improve the situation. Now the market is functioning again, although the issue volumes of commercial paper are still lower than prior to the crisis. Many of the earlier market shortcomings, such as a lack of transparency and limited liquidity, still remain, however.

The effects of the spread of the coronavirus and more bankruptcies dominate near-term risk outlook

The increased spread of the coronavirus means that the restrictions and behavioural changes will slow down an economic recovery in the near term. It is also clear that the situation on the financial markets is still sensitive to the effects of the pandemic. If turbulence arises on the financial markets, banks in Sweden and abroad may tighten their lending and raise lending rates to households and companies. In addition, the ability of companies to borrow on the bond markets may deteriorate.

However, there are risks, regardless of the effects of the spread of infection. Although bankruptcies both in Sweden and abroad have generally been low and have fallen in some countries during the pandemic, this does not mean that the risk of substantial solvency problems in the corporate sector has disappeared. The lockdowns themselves may have delayed bankruptcy proceedings in some countries, and the reported bankruptcy statistics may not yet be giving an accurate picture of the situation. The fiscal policy support measures implemented around the world to help companies to survive the crisis are also as a rule temporary and will need to be phased out at some stage. Withdrawing the measures too rapidly may jeopardise the economic recovery. Moreover, some support measures, for instance, forbearance on tax and loan payments, provide only temporary relief for companies. Once the forbearance ends, the situation for many companies may rapidly deteriorate. Overall, this means that there is a substantial risk in several countries that bankruptcies will arise at a later juncture.

⁴ See the article "Banks' lending capacity in light of the coronavirus pandemic" in this report.

⁵ See S. Wollert (2020), Swedish corporate bonds during the coronavirus pandemic, *Staff Memo*. Sveriges Riksbank.

In the near term, this could coincide with political risks, such as Brexit, which could cause further turmoil.

Support measures risk building up vulnerabilities in the financial system

There is a risk that the support measures implemented to reduce the economic consequences of the pandemic may build up vulnerabilities in the financial system. The extensive fiscal policy support programmes, for instance, will cause sovereign debt to increase on a broad front around the world. Moreover, many companies have used loans to cover for the loss of income during the pandemic. Higher leverage increases sensitivity to changes in economic conditions.

The support measures can also lead to problems of moral hazard, that is, that the financial sector always expecting to be rescued by governments, central banks and other authorities. In the longer term, this may lead to excessive risk-taking and build up vulnerabilities in the financial system.

In addition, falling real interest rates have been pushing general interest rates down over a number of years. At the same time, central banks are now conducting even more expansionary monetary policy to mitigate the effects of the crisis. This may increase expectations among market participants that interest rates will remain low for a long time. In the longer run, this may prompt them to take excessive risks, lead to assets being overvalued and cause indebtedness to rise further, which in turn can increase the vulnerabilities in the financial system.

The Riksbank's assessment is that the risks and vulnerabilities posed by the support measures are subordinate to the need for acute crisis management. In more normal and better times, however, it is important to limit risk-taking and build up buffers to avoid the need to implement major support measures when economic conditions deteriorate. The timing for phasing out the current support measures, and how quickly this is done, must be chosen with considerable care to balance the various risks.

A deeper crisis may threaten the stability of the Swedish financial system

The risk outlook described here is similar for most countries. In some aspects, the risks are greater abroad. For instance, the banking sector in the euro area is vulnerable, with lower earnings capacity and a larger share of non-performing loans. Public finances are also much weaker in many other countries. It is thus not certain that all banks have sufficient resilience or that countries have the capacity to implement the measures needed if the crisis becomes deeper or more prolonged. Problems abroad risk spreading rapidly to Sweden. This is because Sweden is a small, open economy that is very export-dependent and has companies and banks that are dependent on global financial markets for their funding. Worse developments abroad, not least in the euro area and the United States, can thus lead to problems for the Swedish financial system.

In other respects, the risks are more specific to Sweden. While Swedish sovereign debt is low, the level of private sector indebtedness is high in comparison with other countries, and it has increased over time. The Riksbank has long been highlighting the high level of household indebtedness and problems in the housing market, and how these constitute major vulnerabilities for the Swedish economy. Moreover, banks have large exposures to commercial property companies, which means that problems in this sector may have major consequences for financial stability.

The Riksbank's stress tests show that if the crisis becomes prolonged and prices of housing and commercial property fall substantially, banks may find it difficult to maintain credit supply without further support measures. However, stress test results are not forecasts, and are to be interpreted with caution, as the models are based on a number of assumptions.

Important that policy areas cooperate and that buffers are used if necessary

If one or more of the risks mentioned above were to materialise, the crisis could spread throughout the financial system. The capital and liquidity buffers built up by banks over the past decade, partly as a result of stricter requirements from authorities, may then need to be used. Banks need to do what they can to supply sufficient credit to companies and households. The Riksbank therefore considers that the banks should refrain from paying dividends to shareholders until further notice.

If the crisis becomes deeper or more prolonged, even more fiscal policy support may be needed, partly general measures and partly measures targeting particularly vulnerable sectors and industries. Thanks to Sweden having conducted a responsible fiscal policy for many years, the country has a low sovereign debt. There are thus good conditions for fiscal policy to take the measures needed. The Riksbank, for its part, is ready to contribute the liquidity necessary to support credit supply and safeguard financial stability. The Riksbank's measures are thus providing support to economic developments and will help inflation rise towards the target in the longer run.

The pandemic highlights the importance of good resilience in the financial system

The coronavirus pandemic shows how quickly and unexpectedly the economic situation can change, and how important it is for the financial system to have good resilience to shocks. Earlier experiences also indicate that, in the long run, only well-capitalised banks have the capacity to supply the credit the economy needs. When the economic situation permits, the resilience of the financial system will therefore need to be reinforced again. If banks have used parts of their capital and liquidity buffers, they will need to gradually build up sufficient capital and liquidity again when the crisis is over.

During the pandemic, regulations have been eased both in Sweden and abroad and there is a risk of these changes becoming permanent. It has taken a long time to reach

agreement on these regulations. In the longer run, the relaxed regulations may reduce resilience in the financial system. It is therefore important that, for instance, the exemption to the amortisation requirement for Swedish households remains temporary. The established regulations on banks' capital and liquidity should also be retained and not permanently undermined. In the next few years, Sweden, as well as other countries, should introduce the internationally agreed new capital adequacy regulations based on Basel III.

It is also necessary to continue the work on reducing the structural vulnerabilities in the financial system. For example, the coronavirus pandemic has highlighted previously known shortcomings in the Swedish corporate debt market.⁶ Transparency on the market needs to be improved. This means that both the reporting of completed transactions and the published information should be up-to-date and not allowed to lag behind. Greater transparency can help attract more investors to the market, which can create the conditions for improved functionality and liquidity on the secondary market. The Riksbank therefore supports the initiative taken by Finansinspektionen to increase transparency on the market.⁷

Reducing the risks linked to household indebtedness requires managing the fundamental problems on the Swedish housing market, where prices are now rising rapidly once again. Both housing and tax policy measures are needed. Examples of feasible measures include reviewing the regulations regarding the production of new housing, the rent-setting system, the taxation of capital gains from housing property sales and also property tax and tax relief on interest expenditure. If such measures are not implemented to the extent necessary, new macroprudential policy measures may need to be introduced, or the measures already implemented may need to be tightened. However, resolving the fundamental problems on the housing market is a better way forward than further macroprudential policy measures. Furthermore, it is deeply problematic that microdata on household assets and liabilities is not collected in Sweden. It is important that this shortcoming is remedied as soon as possible.

Finally, climate-related risks should remain an important part of the supervision of financial institutions and be integrated into the financial stability analysis. To be able to measure, price and manage these risks, both financial and non-financial companies need to improve their reporting of and statistics on them.

⁶ See, for example, F. Bonthron (2014), Developments on the Swedish market for corporate bonds, *Economic Commentaries*, no. 7. Sveriges Riksbank, The Swedish market for corporate bonds. Article in *Monetary Policy Report*, July 2020. Sveriges Riksbank and S. Wollert (2020), Swedish corporate bonds during the coronavirus pandemic, *Staff Memo*. Sveriges Riksbank.

⁷ See *FI vill se ökad transparens på företagsobligationsmarknaden (FI wishes to see greater transparency on the corporate bond market)*, September 2020. Finansinspektionen.

2 Risks and vulnerabilities in the financial system

In this chapter, the Riksbank presents recent developments in the financial system and analyses the risks and vulnerabilities that could threaten financial stability. The chapter is divided into six sections and underpins the overall stability assessment in Chapter 1.



Sweden is a small, open economy in which foreign trade and other cross-border operations have grown in importance over time. In addition, Swedish banks and companies obtain funding on global financial markets. Developments **abroad** are therefore of considerable significance both for the real economy and financial stability in Sweden.



Weak developments in **the corporate sector** and a rise in bankruptcies may affect financial stability via, for instance, increased credit losses for banks. Banks are particularly exposed to the property sector.



Households are banks' biggest borrowers and their indebtedness has gone hand in hand with rising housing prices. Developments in the household sector and on the housing market are therefore important for both the real economy and financial stability.



The Swedish **banking system** is large, concentrated, interconnected, cross-border and dependent on global financial markets for its funding. Banks have significant exposures to the housing market and the commercial property market. They also play a decisive role with regard to credit supply and other important functions in the Swedish financial system.



Other financial agents, such as investment funds and insurance companies, are interconnected with other parts of the Swedish financial system, including banks. Their actions can amplify market movements and spread risks to other asset types and agents.



The financial infrastructure consists of systems in which payments and transactions with financial instruments are made. The systems make it possible for individual households, companies and authorities to perform payments in a safe and efficient manner.

2.1 Coronavirus pandemic dominating the risk outlook abroad



The increased spread of the coronavirus means that the restrictions and changes in behaviour will slow down an economic recovery in the near term. The crisis has also hit the corporate sector hard and bankruptcies risk increasing globally. This may cause problems, especially in countries with weaker government finances in the first place and with vulnerable banking systems in which profitability has long been weak. In addition, the coronavirus pandemic is also encouraging threat actors to exploit the situation to make cyber attacks, leading to elevated cyber risks. Furthermore, there are several challenges to the global financial system in the slightly longer run. These include the potentially negative side effects of the support measures and risks linked to climate change.

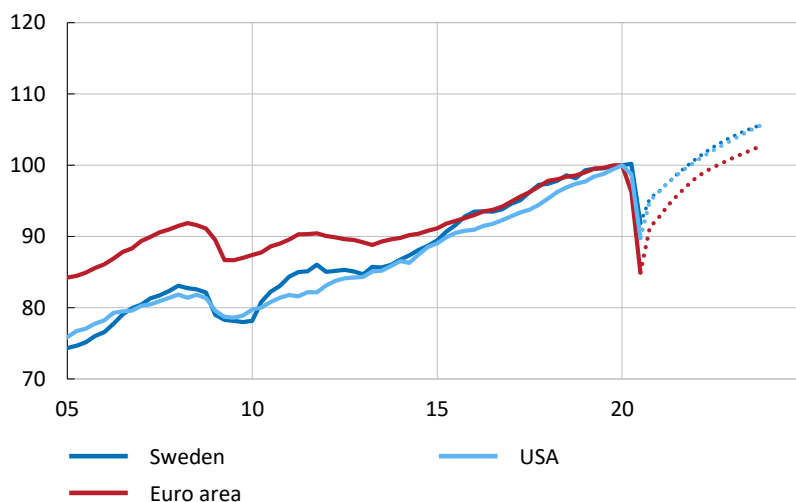
Recovery in the global economy but the increasing spread of infection may lead to setbacks

Global economic developments continue to be marked by the pandemic. The restrictions introduced, the social distancing measures and concerns over the spread of infection crippled economic activity in many countries during the spring, resulting in substantial falls in GDP. Governments, central banks and other authorities have launched powerful measures to mitigate the consequences of the crisis. The support measures have helped to stave off the acute crisis situation and enabled the start of an economic recovery. However, it is clear that the GDP level in the global economy is far below its pre-crisis levels (see Chart 1). The International Monetary Fund (IMF) assessed in October that global GDP would fall by over 4 per cent in 2020, which is more than during the global financial crisis of 2008-2009.⁸

⁸ See *World Economic Outlook*, October 2020. International Monetary Fund.

Chart 1. GDP in Sweden, the euro area and the United States

Index, 2019 Q4 = 100



Note. The dashed lines represent the Riksbank's forecasts from the Monetary Policy Report in September. Refers to seasonally adjusted data.

Sources: Eurostat, Statistics Sweden, the US Bureau of Economic Analysis and the Riksbank.

Because of an increase in infections during the autumn, several countries have been forced to adopt new restrictions or to allow the phasing-out of existing restrictions to take longer. This will slow down the economic recovery in the near term. More extensive and longer lockdowns and behavioural changes could have major economic consequences globally. Regardless of how the infection spreads in Sweden, developments abroad may have significant effects on the Swedish economy, as Sweden is a small, open economy in which foreign trade and other cross-border operations have grown in importance over a long time.⁹ In addition, banks and companies in Sweden obtain funding on global financial markets and are thus dependent on these functioning well.

The crisis has also hit the corporate sector globally. Many companies have used loans backed by different forms of guarantee programmes in order to solve liquidity problems or build up buffers during the pandemic.¹⁰ In France, Italy and Spain, credit growth in the corporate sector has increased substantially during the pandemic (see Chart 2), much due to the large interest in these programmes. The increase in lending may have contributed to the limited number of bankruptcies so far in several euro countries. Another reason may be that the lockdowns in many countries have prevented the judicial system from registering and reporting bankruptcies to statistics agencies to a normal extent.¹¹ In addition, different forms of forbearance on both

⁹ See E. Frohm (2020), Restrained foreign trade after 2009: discussion of possible consequences for Sweden, *Staff Memo*. Sveriges Riksbank.

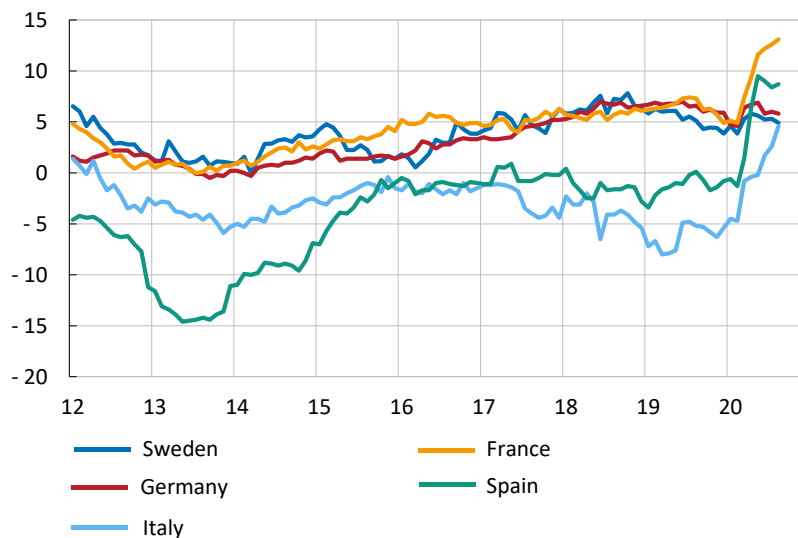
¹⁰ For more information, see M. Falagiarda, A. Prapiestis, and E. Rancoita (2020), Public loan guarantees and bank lending in the COVID-19 Period, *Economic Bulletin*, Issue 6. European Central Bank.

¹¹ In Germany, there is another possible explanation for the low number of reported bankruptcies as the country adopted a law in March that temporarily rescinds the obligation of a company and its creditors to apply for bankruptcy. The law has thus made it possible for companies that would normally have been declared bankrupt to continue their operations.

loan and tax payments have temporarily helped companies to maintain their operations.

Chart 2. Lending to non-financial companies in Europe

Annual percentage change



Note. Refers to lending from monetary financial institutions (MFI).

Source: ECB.

Bankruptcies normally occur with a certain time-lag after substantial GDP falls and the extent of support measures taken indicates that this may also be the case this time.¹² This means in turn that it may also take time before the weak developments in the corporate sector are reflected in an increase in non-performing loans among banks.¹³ The major economic decline caused by the pandemic suggests that bankruptcies may increase significantly in the period ahead, which will lead to difficult tradeoffs for policy-makers when it comes to how and at what pace support measures should be phased out. Phasing the programmes out too rapidly might lead to a substantial wave of bankruptcies that could be difficult to manage. However, phasing them out too slowly could instead hamper economic developments in the longer run and lead to non-productive companies being kept alive at a high cost to the economy.

Improved sentiment on financial markets, but turbulence can return rapidly

In the initial phase of the crisis, there were considerable strains on financial markets, with investors seeking very liquid and relatively safer assets. Equity indices fell, interest rates rose sharply and there were clear signs that some markets were functioning

¹² See R. Banerjee, E. Kharroubi, and U. Lewrick (2020), Bankruptcies, unemployment and reallocation from Covid-19. *BIS Bulletin no. 31*, Bank for International Settlements.

¹³ Normally, the bank must classify a loan as non-performing no later than 90 days after payment from the borrower is due. For a discussion on non-performing loans and how banks manage them, see O. Fredriksson, and N. Frykström, (2019), Non-performing loans and their effects on banks and financial stability, *Economic Commentaries*, No. 2. Sveriges Riksbank.

poorly. For example, the difference between ask and bid prices increased on many important funding markets. To reduce the risk of a credit crunch and help improve credit supply, central banks implemented a large number of powerful measures. In common with several other central banks, the Riksbank initiated purchases of financial assets, in the form of, for example, government bonds, covered bonds, corporate bonds and commercial paper. Several central banks also started substantial lending programmes and policy rates were cut or held at around zero per cent. In addition, the Federal Reserve's swap agreements with central banks in other countries helped to mitigate problems associated with the shortage of US dollars at the beginning of the crisis. Together with fiscal policy support programmes, these measures have played a crucial role in avoiding a financial crisis.

As a result of the measures, sentiment on financial markets improved significantly. Yield spreads between risky and safer assets decreased, which has been reflected for instance in developments on the corporate bond market not only abroad (see Chart 3) but also in Sweden, where yields on both corporate bonds and covered bonds fell (see Chart 4). Global, market-based measures of volatility also decreased.¹⁴ The improved sentiment has also been reflected in rising equity prices. This applies in particular in the United States and among technology companies and online traders. On the other hand, hard-hit sectors, such as hotels and air travel, have seen a significantly weaker development.

It is clear, however, that the situation on financial markets is still sensitive to the effects of the pandemic. The high valuations on both the equity and the bond market may also increase the risk of a price fall. Equity prices have fallen several times during the autumn after news of an increased spread of infection. There is a risk of the increased infections and new lockdowns leading to renewed turmoil on financial markets. This could in turn spread to the real economy and lead to a similar scenario to the spring, when some companies had problems funding their operations.

¹⁴ See the separate chart appendix for additional charts on developments in financial markets and the situation among the major banks in Sweden and among their borrower groups.

Chart 3. Difference between yields on corporate bonds and government bonds in the United States and euro area

Percentage points

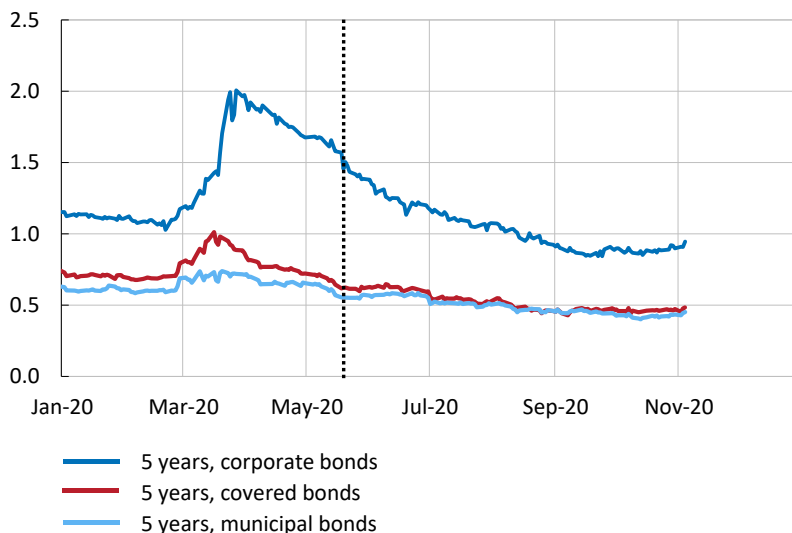


Note. Yield differentials refer to 5-year benchmark issued by companies with good credit ratings and the government, respectively. The dashed line represents the publication of *Financial Stability 2020:1*.

Source: Macrobond.

Chart 4. Yield spreads for different Swedish bonds

Percentage points



Note. Yield spread in relation to the government bond yield. Covered bonds and corporate bonds are calculated as zero coupon bonds using the Nelson-Siegel method. Includes bonds with credit ratings of BBB or higher. Municipal bonds are benchmark bonds, issued by Kommuninvest i Sverige AB. The dashed line represents the publication of *Financial Stability 2020:1*.

Sources: Bloomberg, Macrobond, Refinitiv and the Riksbank.

Vulnerabilities may deepen and prolong the crisis

However, it is not just the effects of an increased spread of infection, in the form of further restrictions and behavioural changes, that will slow down the economic recovery and ultimately entail risks to financial stability. Even before the crisis, there were significant imbalances making certain agents and areas of the global economy more vulnerable in the current situation. High government debt (see Chart 5) and banking systems with weak profitability mean that several countries were already in a weak position prior to the pandemic. It is therefore uncertain how a large increase in the number of bankruptcies and non-performing loans may affect fragile banking systems. The fragility of the banking system in several European countries can make it more attractive for policy-makers to relax regulatory frameworks, which, in the short run, may help the banking sector maintain credit supply to households and companies. Such regulatory easing may, however, reduce resilience in the longer run and lead to a situation where the banking system is even more poorly prepared to meet the next crisis.

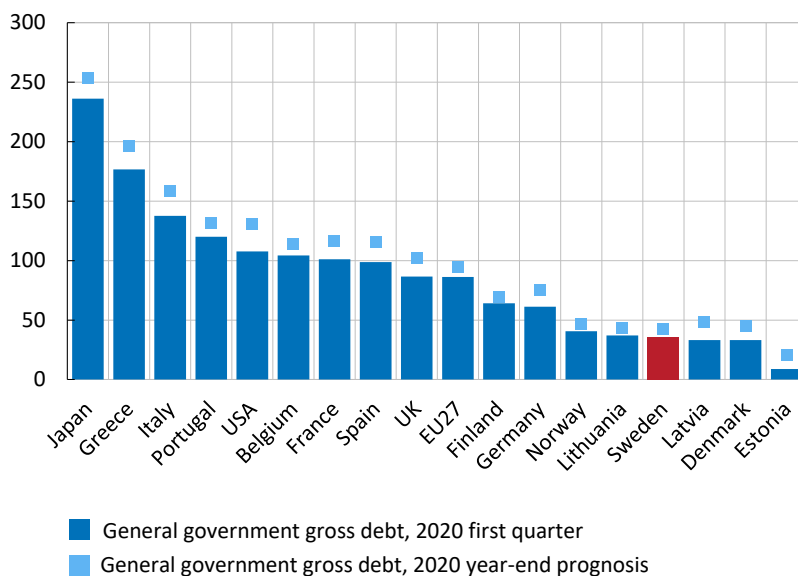
As government debt was high prior to the crisis, it is also uncertain how long certain countries with high public indebtedness can continue to conduct very expansionary fiscal policy. The possibility of yields on these countries' government bonds starting to rise in the longer term, as a result of market participants starting to perceive debt levels in these countries as riskier, cannot be ruled out.

In some countries, increased leverage in the corporate sector has coincided with a growing market for syndicated loans to companies with a low credit rating and/or high leverage, known as leveraged loans. These loans have grown on the US market in particular.¹⁵ At the same time, the credit quality of these loans has gradually deteriorated, as has investor compensation. The risks associated with these loans have therefore increased over time from several perspectives.

¹⁵ There is no unequivocal definition of "leveraged loans" But it is common, for example, to define them based on the company's credit rating or leverage in relation to earnings before interest, taxes, depreciation and amortisation. A syndicated loan is a loan mediated by several lenders to a single borrower.

Chart 5. General government debt in various countries

Per cent of GDP



Note. The forecast for 2020 is from the European Commission, European Economic Forecast, Summer 2020. EU27 refers to the average of the 27 countries in the European Union.

Sources: International Monetary Fund and the European Commission.

Cyber risks still elevated as a result of the coronavirus pandemic

The coronavirus pandemic is also leading to elevated cyber risks. A large share of employees among systemically important participants in the financial sector continues to work from home to a large degree. This can pose a risk of normal security routines being relaxed to be able to maintain operations. There is also a risk of threat actors exploiting this more vulnerable situation. The cyber threats targeted at Sweden can be linked to several different types of threat actors, which mainly consist of hostile state actors and criminal groups.¹⁶

The Riksbank is working to counteract cyber risks partly through continued implementation of TIBER-SE, which is a framework for testing cyber security among participants in the Swedish financial system. This framework can help critical actors obtain a better picture of their capacity to manage cyber risks, and it thus provides a base for strengthening resilience in the financial system.

Extensive crisis measures have been necessary but may have negative side effects in the longer run

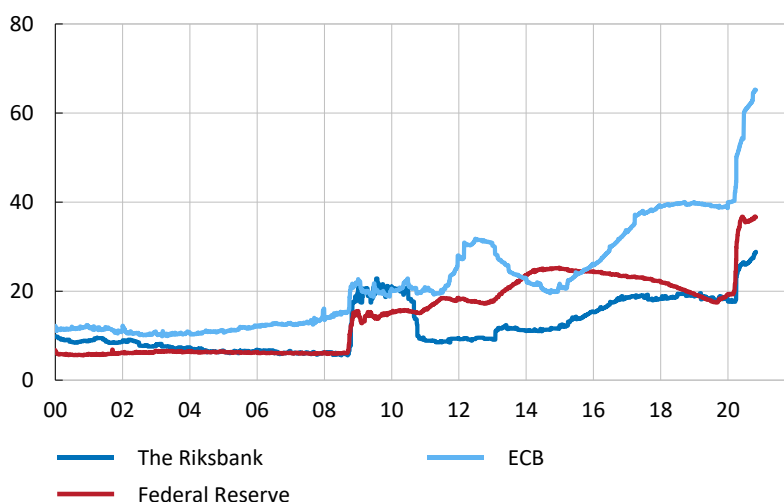
The Riksbank has pointed out in several earlier Financial Stability Reports that low interest rates over a long period may lead to a build-up of risks in the global financial system. The current crisis has prompted central banks to conduct very expansionary monetary policy with extensive asset purchases and low policy rates. The asset pur-

¹⁶ See *Cybersäkerhet i Sverige – hot, metoder brister och beroenden (Cyber safety in Sweden – threats, methods, shortcomings and dependencies)*, 2020. Swedish Security Service.

chases have led to a sharp expansion in central bank balance sheets (see Chart 6), illustrating that central banks have taken powerful action. At the same time, governments around the world have launched major support measures. Expansionary fiscal and monetary policy has been necessary to mitigate the negative economic effects of the pandemic. If measures are withdrawn too quickly, it could hamper the economic recovery, lead to a wave of corporate bankruptcies and tighten conditions on financial markets, and cause interest rates to rise for vulnerable households and companies.

Chart 6. Central bank balance sheets

Per cent of GDP



Note. GDP for the second quarter is used for the outcomes in October for the Riksbank and the ECB respectively.

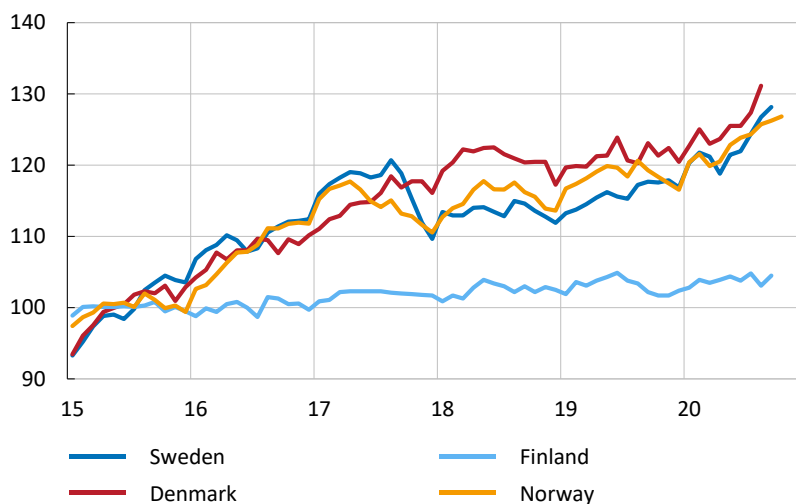
Source: Macrobond.

However, the measures can have negative side-effects in the longer run. Interest rates were already low prior to the crisis, largely because real interest rates have shown a falling trend over a long period of time.¹⁷ At the same time, central banks are now conducting even more expansionary monetary policy to mitigate the effects of the crisis. This could lead market participants to more firmly expect interest rates to remain low for a long time. In the longer run, this could lead to excessive risk-taking, to assets being overvalued and to indebtedness increasing in an unsustainable manner. Relevant examples are rising housing prices not only in Sweden (See Section 2.3 “Measures to combat impaired resilience among households”), but also in several other countries (see Chart 7), and increased valuations on global equity and bond markets. If interest rates were to rise unexpectedly rapidly, this could cause major problems on many asset markets, although this does not constitute a main scenario in the near term.

¹⁷ For a discussion of which factors have contributed to the fall in real interest rates, see H. Lundvall (2020), What is driving the global trend towards lower real interest rates?, *Economic Review* 2020:1. Sveriges Riksbank.

Chart 7. Housing prices in Sweden and neighbouring countries

Index, 2015 = 100



Note. Not seasonally adjusted prices. Price indices for Sweden and Norway include both tenant-owned apartments and single-family houses. Price development for Denmark and Finland refers to price development of tenant-owned apartments. The figures for Finland in 2020 are to be considered as preliminary.

Sources: Valueguard, Eiendom Norge, FINN, Eiendomsverdi AS, Statistics Denmark and Statistics Finland.

If interest rates remain low for an even longer period going forward, this will also pose risks to the banking and insurance sectors abroad, as it can reduce banks' earnings capacity and the ability of the insurance sector to meet existing commitments (see Section 2.4 "Good resilience, but developments in the banking sector are fraught with great uncertainty" and 2.5 "Some investment funds and insurance companies vulnerable to renewed turmoil on financial markets"). Low interest rates can also prompt these agents to increase their risk-taking. The International Monetary Fund (IMF) points out that vulnerabilities among non-banks in a global perspective were elevated prior to the crisis.¹⁸ It also stressed that the regulatory framework and supervision need to be strengthened to limit risk-taking among these agents in a low interest rate environment.¹⁹

The support measures can moreover lead to problems of moral hazard, that is, the financial sector always expecting to be rescued by governments, central banks and other authorities. In the longer term, this may also lead to excessive risk-taking and build up vulnerabilities in the financial system. Nor can the possibility be ruled out that all the economic policy stimuli, combined with demographic changes, will contribute to a more significant increase in inflation. The build-up of debt in the public

¹⁸ "Non-banks" include insurance companies and investment funds. The report uses the expressions "non-banks" and "other financial agents" synonymously.

¹⁹ See *Global Financial Stability Report*, October 2020. International Monetary Fund.

and private sectors in several countries may then entail difficult considerations for central banks.²⁰

Climate change is an overarching threat to the global financial system

The financial risks associated with climate change and the transition to a less fossil-based economy need to be managed. As the Riksbank has previously pointed out, it is important that the reporting of climate-related financial information is improved and made uniform. This is the first building block of progress in the work to manage climate-related risks. Banks, insurance companies and other financial companies need to identify, assess and take into account the climate-related risks to which they are exposed in their business models. Authorities also need to form an opinion on how severe the consequences of climate change can be for the global financial system. Many central banks and supervisory authorities are therefore working on developing methods to analyse how vulnerable banks are in various future transition scenarios (see the fact box “Stress tests and climate”).

²⁰ For a more detailed discussion, see for instance C. Goodhart, and M. Pradhan (2020), The Demographic reversal. *SUERF Policy Note*, Issue no. 197. The European Money and Finance Forum.

FACT BOX – Stress tests and climate

Central banks, supervisory authorities and international bodies are working on developing methods to analyse how vulnerable financial systems are to climate-related risks. For example, various types of stress test are being developed. These are normally based on historical data, which include periods of high stress and various forward-looking scenarios that describe a very negative but not implausible sequence of events. As we have not yet experienced the full effect of a climate adaptation or climate crisis, it is difficult to calibrate the stress test models using historical data. Another difficulty is that the effects of climate-related risks will materialise over a longer period than is normally covered by stress tests.

The international organisation Network for Greening the Financial System (NGFS) has therefore developed forward-looking scenarios to create a joint basis for the analysis of climate-related risks.²¹ One is the *orderly* scenario, in which sufficient climate policy measures are implemented in time for us to be able to achieve net zero emissions by 2070. In this scenario, physical risks and transition risks are relatively low. Another is the *disorderly* scenario, where climate measures are not implemented until 2030, but then to an extensive degree, which results in a higher transition risk. A further scenario is the “*hot house world*” where no further climate policy measures are implemented. The effect is an increase in temperature by three degrees or more with irreversible effects, such as higher sea levels and substantial physical risks.

Some central banks have also published the results of stress tests focusing on the effects of climate change on banks. The central bank of the Netherlands, for instance, has published a stress test of the resilience of banks in the Netherlands to a transition to fossil-free energy sources²². The central bank of France has also published analyses of risks to financial stability resulting from a transition to fossil-free energy sources.²³ Next year, the Bank of England is planning an extensive climate stress test of the financial system in the United Kingdom.²⁴

Considering climate-related risks and integrating them into the analysis is included in the Riksbank’s work to promote financial stability. This covers developing stress test methods and quantifying climate-related risks in the Swedish financial system. The Riksbank has, for example, analysed sea level rises as a result of global warming and the risks they pose on the housing market.²⁵ The analysis shows that the risks of climate-related damage to coastal properties from sea level rises in the future increase in all the scenarios analysed, compared to the current situation.

²¹ See *NGFS Climate Scenarios for central banks and supervisors*, June 2020. NGFS.

²² See R. Vermeulen et al. (2020), An energy transition risk stress test for the financial system of the Netherlands. *Occasional Studies* 16-7. De Nederlandsche Bank

²³ T. Allen et al. (2020), Climate-Related Scenarios for Financial Stability Assessment: an Application to France. Working paper 774. Banque de France.

²⁴ See *The 2021 biennial exploratory scenario on the financial risks from climate change*, December 2019. Bank of England.

²⁵ See M. Danielsson (2020), Rising sea levels due to global warming will entail increased risks to housing, *Economic Commentaries*, No. 10. Sveriges Riksbank.

2.2 Some recovery in the Swedish corporate sector, but uncertainty remains



The situation in the corporate sector has improved since the spring, and the number of bankruptcies and restructurings has so far been limited. Although many companies are still finding it more difficult than normal to finance their operations, funding conditions have improved compared to the initial phase of the crisis. However, many companies are far from a normal state of affairs, and there is a substantial risk that the number of bankruptcies will increase. In addition, there is considerable uncertainty over what changes the pandemic will entail for property companies, in particular the office market, which constitutes a large share of the commercial property market in Sweden. Swedish banks have large exposures to highly levered property companies, which means that problems in this sector could have major consequences for financial stability.

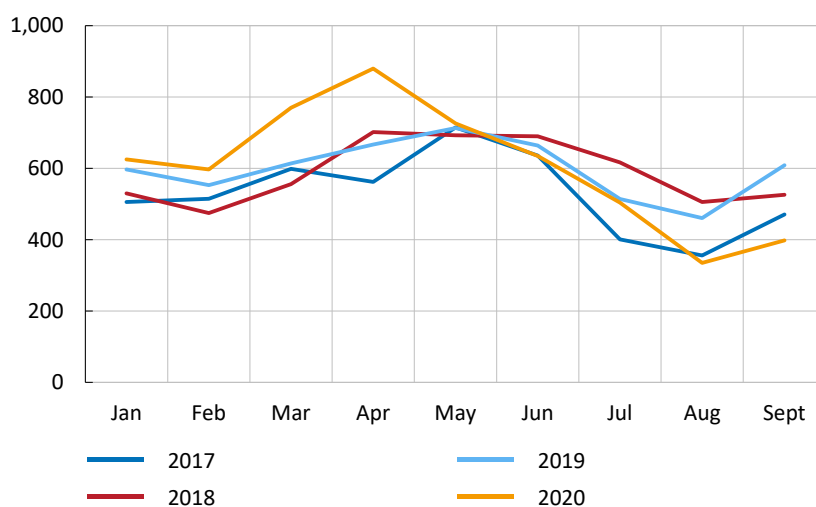
Improved conditions for many companies, but there is still a long way to go

The pandemic has hit large parts of the corporate sector very hard. Sectors directly affected by the restrictions on social life have been hit the hardest. During the spring, the number of bankruptcies and restructurings increased to a higher level than in previous years (see Chart 8), which in part can be explained by many companies experiencing a sharp fall in revenue. However, many of the companies that went bankrupt in the early stages of the pandemic were in a weak position to start with, for instance, having high leverage and a low interest coverage ratio (see the article “Bankruptcies during the initial phase of the coronavirus pandemic”), which made them sensitive even to a small fall in revenue.²⁶ During the summer months and early autumn, the number of bankruptcies declined to more normal levels (see Chart 8). One of the factors that could explain why many companies survived is the extensive support measures launched by the Government, the Riksbank and other Swedish authorities.

²⁶ Leverage is defined as the company's debt divided by the sum of debt and equity. The interest coverage ratio is a measure of a company's ability to pay its interest expenses using its earnings (before interest and tax).

Chart 8. Bankruptcies in the Swedish corporate sector

Number of bankruptcies per month



Note. Covers limited liability companies, sole proprietorship and partnerships, etc.

Source: Statistics Sweden.

The fact that there have been fewer bankruptcies in recent months could also be due to the economy in general having seen some recovery, which has also been more rapid than expected for many companies. The Economic Tendency Survey has risen every month since April and the upturn has been relatively broad, although the situation in the services sector is weaker than, for instance, the manufacturing industry. Real-time statistics for hotel bookings and restaurant visits (see Chart 9) also show some recovery compared with the spring.

Despite signs of a recovery in some sectors, it is still a long way back to how things were prior to the pandemic. This picture is shared by a majority of the companies interviewed in the Riksbank's Business Survey.²⁷ If companies still have lower revenue than usual over a long period, several of them may have difficulty in fulfilling their obligations to lenders and suppliers. New behavioural patterns, such as teleworking and reduced travel can also force many companies to make changes to their operations. Although many companies may succeed in this, some will probably have trouble adapting to the new circumstances. In addition, there is considerable interconnectedness between different industries, which means that problems in one can spread to others. For instance, continued problems in retail can lead to problems for property companies that are dependent on rental income from shops.

This can altogether lead to a continued weak outcome for the corporate sector and to more bankruptcies than we have seen so far. A minor increase in the number of bankruptcies could leave its mark on the labour market, but need not have major consequences for economic growth or financial stability.²⁸ However, if the bankruptcies

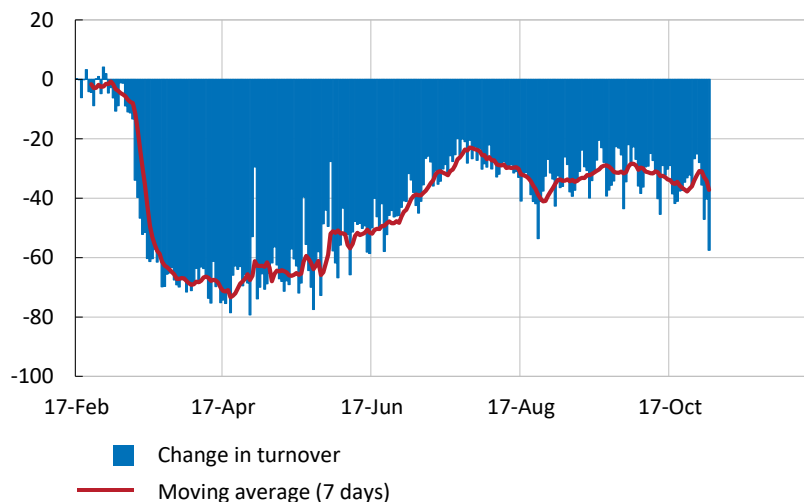
²⁷ See *The Riksbank's Business Survey*, September 2020. Sveriges Riksbank.

²⁸ The industries that have been hit hard comprise a relatively small share of the Swedish economy measured in terms of GDP. See Y. Akkaya, C-J. Belfrage, V. Corbo and P. Di Casola (2020), GDP development in Sweden relative to other countries in the wake of Covid-19, *Economic Commentaries* no. 5. Sveriges Riksbank.

spread from sector to sector and increase significantly, the effects could be more extensive.

Chart 9. Turnover in the restaurant industry

Percentage change in daily turnover compared with 2019



Note. Daily turnover for about 600 restaurants with an average annual turnover of SEK 18 million.

Source: Caspeco AB.

Rental income and equity value for property companies affected in both short and long term

Revenue losses in many companies have affected their capacity to pay their rents, which in turn has reduced property companies' rental income. Many property companies have therefore worked on various forms of solution to help tenants who are experiencing difficulties. This applies in particular to property companies with tenants in the retail sector, and the restaurant and hotel business.

Developments in the corporate sector have affected how property companies are valued on the stock market. How investors see the earnings of these companies and their capacity to adapt their operations and premises to new conditions are reflected in the development of equity prices. Property companies with a high share of tenants in the retail trade and hotel business have seen their equity value decline by up to 40 per cent during the period January-October 2020. Other property companies with high exposure to housing, social infrastructure or logistics have managed better during the same period.

The coronavirus pandemic may also have more long-term consequences for the property industry. For instance, the pandemic may have hastened a changeover from physical shops to e-commerce. This may have effects on traditional brick-and-mortar retail and services, and change perspectives on which geographical locations are attractive. The pandemic may also lead to office tenants reconsidering their needs regarding office space in the longer run. Offices comprise the largest single segment in

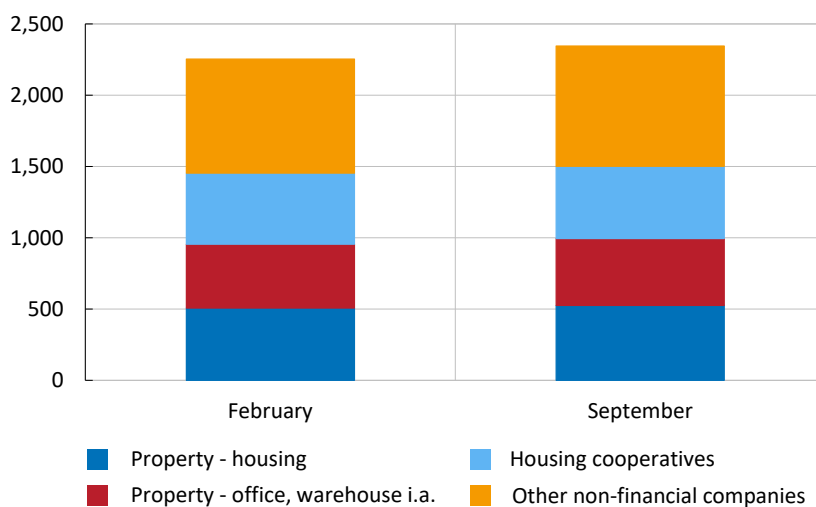
the property sector in Sweden, and developments in rents for this segment are therefore very important to developments in the property sector as a whole. So far, developments in this segment have been more positive than those in, for instance, the retail trade and hotel business. It is too early to say what lasting changes the pandemic may cause, but it will be important to follow developments in this segment going forward.

Companies' funding terms have improved

The borrowing of Swedish companies consists mainly of bank loans. In recent years, however, corporate debt in the form of corporate bonds and commercial paper has grown and become an increasingly important funding source. It currently constitutes about one third of companies' total borrowings. Just over 40 per cent of lending from monetary financial institution (MFI) to non-financial companies goes to property companies.²⁹ Around half of the loans to property companies go to housing, and the remainder to offices, other business premises, etc. (see Chart 10). Overall, lending to the property sector has increased since February. Property companies also account for around 40 per cent of the volume of outstanding corporate bonds and commercial paper.³⁰

Chart 10. Bank lending to non-financial companies

SEK billion



Note. The dark blue area refers to lending to property companies specialising in housing. The sum of bank lending at the end of September is SEK 2,346 billion, which differs from the sum in the articles in this report (SEK 2,488 billion). The reason for the difference is that in the latter case, we use another source, Statistics Sweden's Financial Market Statistics.

Sources: Statistics Sweden and the Riksbank.

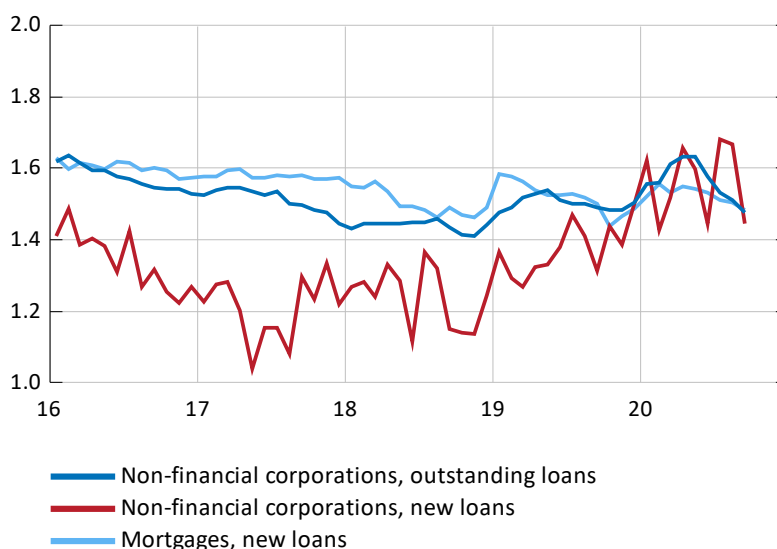
²⁹ Refers to lending from 18 major monetary financial institutions (MFI) to Swedish non-financial companies. Including lending to housing cooperatives. Source: Statistics Sweden (KRITA).

³⁰ Refers to the share of all corporate bonds and commercial paper (including those issued in foreign currency) at the end of September 2020. Corporate debt includes corporate bonds and commercial paper.

It is important for financial stability that the corporate debt market functions well, as problems in this market can quickly lead to an increased demand for bank loans. This was illustrated during the initial phase of the pandemic, when funding terms on the corporate debt market deteriorated substantially. Many large companies that had problems refinancing commercial paper and bonds then chose to use credit facilities at banks. Partly because of this, annual growth in bank lending rose during the initial phase of the crisis, from 3.8 per cent in February to 5.3 per cent in March. In September, it amounted to 3.8 per cent. During the same month, the average interest rate on bank loans granted to non-financial companies was 1.4 per cent (see Chart 11).

Chart 11. Interest rates for households and companies in Sweden

Per cent



Note. Refers to loans from monetary financial institutions (MFI).

Source: Statistics Sweden.

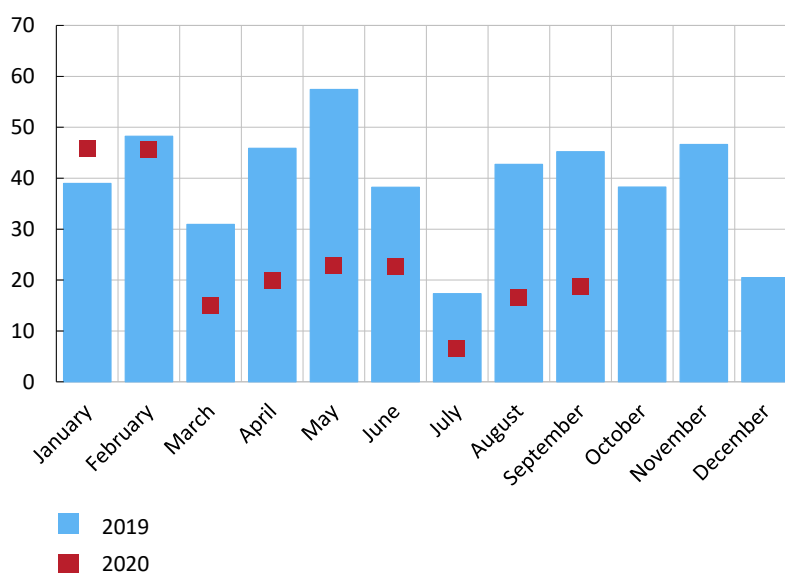
During the initial phase of the pandemic, it was primarily lending to large companies that increased. This increase was mainly up to and including May, and after that outstanding loans began to decline (see the article “Banks’ lending capacity in the light of the coronavirus pandemic”). That lending to large companies initially increased more than lending to smaller companies could be because demand for credit among smaller companies was low, that these companies have few assets that can be used as collateral for bank loans, or that other support, such as forbearance on tax payments, has been a more effective way for smaller companies to obtain funding. However, it could also be because the banks, in connection with receiving many credit applications at the beginning of the pandemic, prioritised lending to large and existing customers over smaller customers that could be associated with higher credit risk. Instead of a company being granted a loan at a higher interest rate, their application may then have been rejected instead.³¹

³¹ See also E. Frohm, J. Grip, D. Hansson and S. Wollert (2020), Two-tier credit developments during the coronavirus pandemic. *Economic Commentaries* no. 6. Sveriges Riksbank.

That outstanding loans to large companies have declined during the summer and autumn could be because it has become easier and cheaper to issue corporate debt, which is a source of funding mainly used by larger companies. This picture is confirmed by the Riksbank's Business Survey for September, where the major companies talk about a normalisation on financial markets. The issue volumes of corporate bonds have increased, and are back at roughly the same levels as prior to the crisis. However, the volume of commercial paper issued since March has each month been lower than the outcome for the corresponding month in 2019 (see Chart 12). One reason for this could be that some of the companies that often issue during the spring had planned for a continued difficult autumn and resolved their funding needs for the autumn with, for instance, bank loans instead.

Chart 12. Issues of commercial paper for non-financial companies

SEK billion



Note. Refers only to issues in SEK.

Source: Statistics Sweden.

Many companies, especially smaller ones, have perceived their funding situation to be more strained during the crisis. For example, in the Economic Tendency Survey for October, the proportion of companies considering it more difficult or significantly more difficult than normal to fund their operations is still higher than before the pandemic. However, access to funding appears to have improved recently, also for smaller companies. Bank lending to micro companies and to small and medium-sized companies has increased somewhat in recent months. In addition, in the latest Economic Tendency Survey, a smaller percentage of these companies than in May considered it was more difficult or significantly more difficult than normal to obtain funding. There was also a larger share saying that the funding situation was normal. The improvement is visible in several sectors. It was also noted in the Riksbank's Business Survey that companies in the sectors hardest hit by the pandemic, and which have experienced difficulties obtaining loans during the spring, feel that banks are now somewhat more willing to lend to them than before.

The crisis exposed shortcomings on the corporate bond market

The pandemic exposed problems that have existed on the corporate bond market for a long time, and which have been pointed out by the Riksbank before.³² A large share of investors choose to hold onto their bonds until maturity. This means that only a small share of the total outstanding volume is sold on the secondary market. Nor are there any market makers on the secondary market, that is, dealers who guarantee that they are always prepared to purchase or sell bonds for a stated price. This is an important difference from, for example, the government bond and covered bond markets, where market makers contribute to liquidity. Although formal resale agreements can support market functioning in normal times, they would probably not have remedied the situation in the spring, when many large participants wanted to sell the same type of bonds at the same time.

There is also a need for increased transparency on the secondary market, particularly with regard to trade information on prices and volumes. One way of achieving this is to tighten reporting requirements so that the information is made available more quickly than is currently the case.³³ Ultimately, measures that improve transparency can also improve the liquidity situation, if more investors are attracted to the market. Another problem is that many issuers lack credit ratings, which means that it takes longer and becomes harder for investors to evaluate the risk associated with non-rated companies, which makes issues and trading even more difficult in a situation when the market is stressed.

³² See S. Wollert (2020), Swedish corporate bonds during the coronavirus pandemic, *Staff Memo*. Sveriges Riksbank, F. Bonthron (2014), The development of the Swedish market for corporate bonds. *Economic Commentaries* no. 7. Sveriges Riksbank, and B. Becker et al. (2020), Kan obligationsmarknaden dämpa kreditykeln? (Can the bond market slow down the credit cycle?), *FI-analys* no. 23. Finansinspektionen.

³³ In the United States, work to increase transparency on the corporate bond market has come further than in Europe. There are also more agents who set prices and provide electronic platforms for trade.

2.3 Measures have counteracted impaired resilience among households



Despite weak developments on the labour market, households' resilience has remained good, which is partly due to the measures implemented by the Government, the Riksbank and other authorities, and partly to strong developments on the housing market. However, economic developments going forward are very uncertain, as are prices on the housing market. If housing prices start to fall, it will have a negative effect on household wealth, which in turn may cause households to reduce their consumption. On the other hand, if housing prices continue to rise, and the level of activity on the housing market continues to be high, this may lead to an increase in debt, with a subsequent build-up of risks in the longer term. In addition, the crisis could lead to an increase in the number of non-performing consumption loans.

Worse economic conditions for many households

During the pandemic, the number of redundancy notices and short-term layoffs has risen at a rapid rate and many people have lost, or risk losing, their job and income. From March to October, just over 100,000 employees were given notice of redundancy. All sectors have been hit by redundancies, but the majority of the individuals who have been given notice of redundancy or lost their job are in the hotel and restaurant sectors, financial/corporate services and manufacturing. Many people on fixed-term contracts have lost their jobs, including young people.

However, not all notices of redundancy lead to actual redundancies and unemployment. According to preliminary statistics from the Swedish Public Employment Service, around one in two of those given notice of redundancy in March and April was made redundant after four months, and one in four has been unemployed at some point during these four subsequent months. Overall, the statistics indicate a difficult situation on the Swedish labour market, and as a result of both lower earned income and capital revenue, disposable household income is expected to be lower this year.³⁴

Measures have enhanced resilience among households

The Riksbank has been highlighting for some time that the high level of indebtedness in the household sector could become particularly problematic if economic developments were to be much worse than expected. Highly indebted households may then reduce their consumption, particularly if housing prices also start to fall. The debt-servicing ability of households has been good for a long time, however. In the stress tests carried out by Finansinspektionen every year, most households have good margins for managing both a loss of income and any increases in mortgage rates.³⁵ The measures taken during the crisis have also made it easier for many households to manage their

³⁴ See *Monetary Policy Report*, September 2020. Sveriges Riksbank.

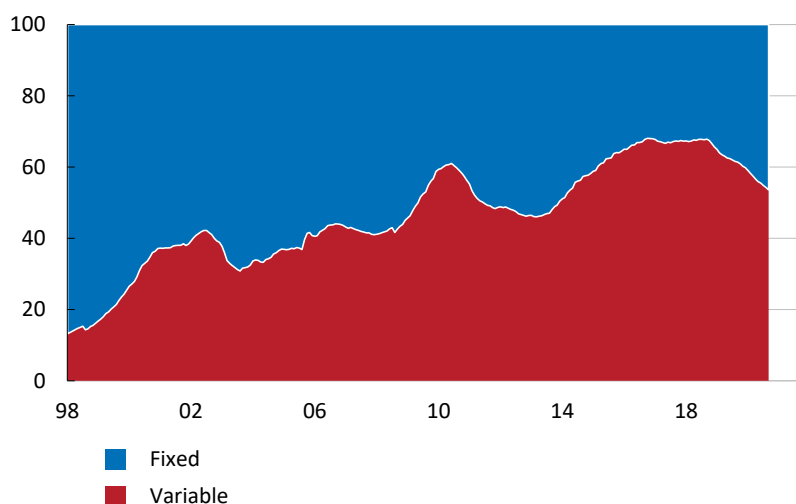
³⁵ See *The Swedish Mortgage Market*, April 2020. Finansinspektionen.

housing expenses in a time when developments on the labour market have been weak.

A large share of the mortgage stock is still tied to a variable interest rate, although the share has declined somewhat in recent years (see Chart 13). The fact that many households are choosing a variable interest rate means that rising interest rates could have a rapid impact on households' interest expenses. Interest rates and the interest-to-income ratio are expected to be low in the coming years, but rising interest rates cannot be ruled out and it could have major consequences for highly indebted households.³⁶

Chart 13. Interest-rate fixation periods in the mortgage stock

Per cent, share of mortgages



Note. Loans from mortgage institutions. The share of mortgages in each category is volume-weighted. Variable rate refers to rate fixation periods up to 3 months. Fixed rate refers to rate fixation periods above 3 months.

Source: Statistics Sweden.

Mortgage rates to households are affected not only by the repo rate, but also by banks' funding costs.³⁷ This means that if banks have trouble obtaining funding, it could lead to an increase in interest rates paid by households, even if the Riksbank's repo rate were to remain unchanged. However, the Riksbank's asset purchases have counteracted such a development and are consequently helping to keep mortgage rates low. The purchases of covered bonds are particularly important in this respect, as Swedish banks fund mortgages to a large degree via covered bonds.

³⁶ Household interest expenses in relation to disposable income.

³⁷ For a more detailed review of how banks' funding affects household mortgage rates, see R. Eidestedt, D. Forsman and E. Ünlü (2020), The funding of the major Swedish banks and its effect on household mortgage rates, *Economic Commentaries, No. 8*. Sveriges Riksbank.

Households' resilience has also been strengthened by several other measures during the crisis. The short-term work allowance, which so far has been extended to just under 600,000 employees, has helped to maintain incomes for many households during the crisis. In addition, Finansinspektionen has allowed banks to make temporary exemptions from the amortisation requirements for all new and existing mortgagors.³⁸ In September, around 190,000 households had been granted temporary amortisation relief since the exemption was introduced in April. Even if amortisation increases the resilience of households to shocks in the longer run, the exemption is an important measure as it increases their room for manoeuvre during the crisis and gives them the opportunity to increase their buffers while simultaneously maintaining their consumption. Developments on financial markets have also contributed to a recovery in households' net wealth through their equity and fund holdings in particular (see Section 2.5 "Some investment funds and insurance companies vulnerable to renewed turmoil on financial markets"). The strong developments on the housing market have also been favourable to household wealth.

The distribution of assets between households with high and low debt is of considerable significance for assessing the size of the risks in the household sector. It is not possible, however, to analyse this at present, as data on households' assets is not gathered at the individual and household level. Better information on households' assets and liabilities is something that the Riksbank has been requesting for a long time, and the need for this was pointed out in an inquiry as early as 2011.³⁹ It is very problematic that this data is not available, not least in the current situation. Most recently in 2019, the Riksbank, in a petition to the Riksdag which was supported by both Finansinspektionen and Statistics Sweden, pointed out that there is no clear legal support for Swedish authorities to collect the data necessary to compile adequate statistics in this area.⁴⁰ It is important that this shortcoming is remedied as soon as possible by the Government appointing an inquiry to propose necessary legislative amendments.

Developments on the housing market have been strong

Since the price fall during the initial phase of the crisis in March and April, housing prices have increased sharply (see Chart 14 and Chart 15). Since April, housing prices have increased by 7.4 per cent in seasonally adjusted terms. It is primarily prices of single-family houses that have risen significantly, increasing by 8.6 per cent since April. Prices of tenant-owned apartments have increased by 5.2 per cent during the same period. Since September 2019, housing prices have overall risen by around 9 per cent.⁴¹ There are also some regional differences; for instance, price growth is somewhat lower in Göteborg, while it is higher in Malmö. The level of activity has been

³⁸ This exemption can be made up to and including 31 August 2021. The exemption does not mean that households can borrow more in connection with purchasing a home if they choose not to amortise. Banks still include amortisation as part of their discretionary income calculations made in connection with a credit assessment, which means that banks are assuming that households would be able to amortise the sum stipulated in the regulations.

³⁹ See *The Riksbank's inquiry into risks on the Swedish housing market*, April 2011. Sveriges Riksbank.

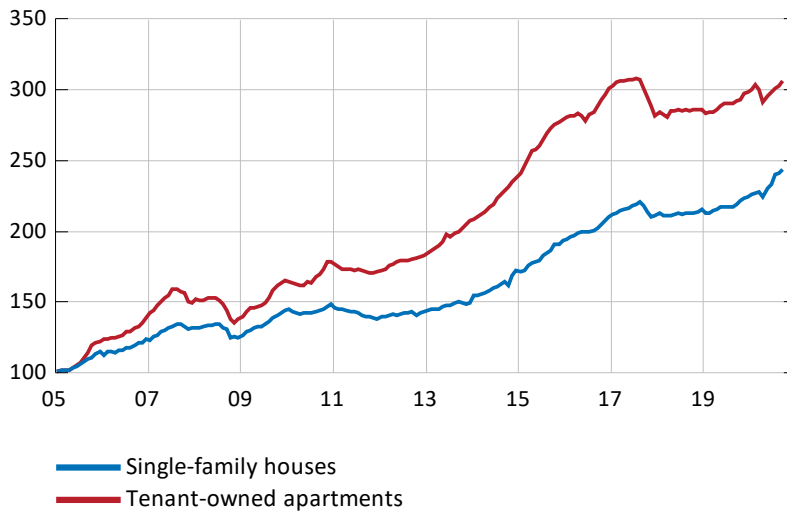
⁴⁰ See the Riksbank's petition to the Riksdag 2018/19:RB4, *Statistik över hushållens tillgångar och skulder (Statistics on households' assets and liabilities)*.

⁴¹ Refers to price movements according to Valueguard's aggregate price index, HOX Sweden.

high during the summer and autumn and deviated somewhat from the normal seasonal pattern; in particular, the number of sales has been unusually high during the summer months. SEB’s housing price indicator, which shows the difference between those who believe that housing prices will increase in the coming year and those who believe they will fall, is now at higher levels than before the outbreak of the pandemic.

Chart 14. Housing prices in Sweden

Index, January 2005 = 100

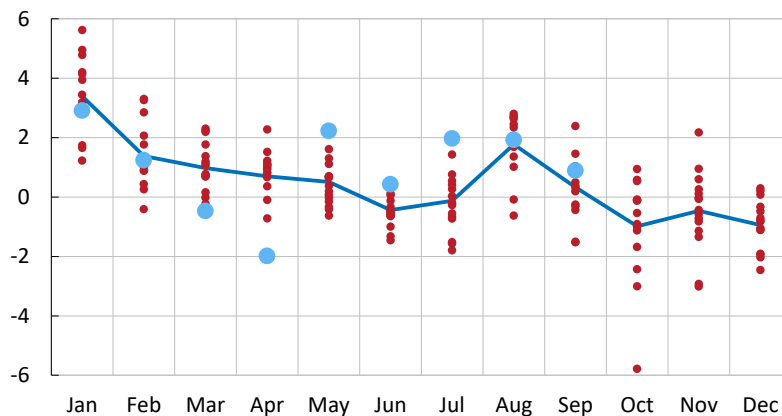


Note. Housing prices are seasonally adjusted.

Sources: Valueguard and the Riksbank.

Chart 15. Monthly growth in housing prices and spread around the mean for each month

Per cent



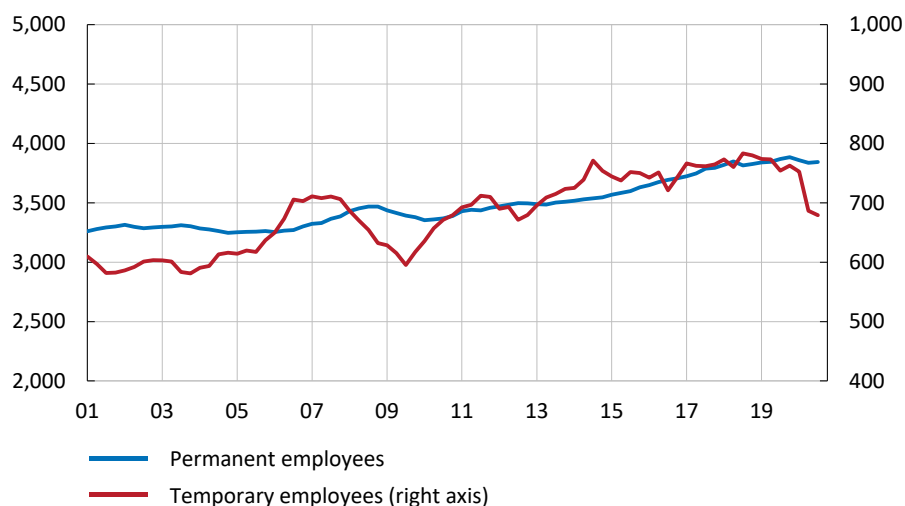
Note. The red dots refer to individual monthly growth figures from 2005 and onwards, while the blue line refers to the historical mean for each individual month over the same period. Light blue dots refer to outcomes during 2020.

Sources: Valueguard and the Riksbank.

Developments on the housing market have been strong bearing in mind the continued weak general developments in the Swedish economy. However, this trend has been similar in many other countries. There are several potential explanations for the present developments on the housing market. For instance, the structural problems that have long characterised the Swedish housing market and contributed to high price increases may be an important factor. Moreover, there are several factors that are more attributable to the crisis and may also have contributed to the increase in prices. That the weak developments on the labour market have not had a greater impact on the development of housing prices could be due to a large proportion of those affected so far by unemployment and loss of income are not homeowners, or that they already had difficulty purchasing a home before the crisis. For example, the crisis has had a particularly severe impact on temporary employees (see Chart 16), who normally find it more difficult to obtain mortgages from banks.

Chart 16. Number of employees by type of employment

Thousands of people



Note. Refers to seasonally adjusted data. Permanent and temporary employees make up the total number of employees in Sweden in the age group 15-74 years.

Source: Statistics Sweden.

Another explanation may be that the crisis has prompted many households to review their housing situation and, for example, want to move to a larger home, or be willing to spend more of their income on housing. More people wishing to move to a larger home could explain why the prices of single-family houses are increasing more than the prices of tenant-owned apartments. Another explanation for the sharply increasing prices of single-family houses could be that this market appears to have recently been characterised by a very low supply. The interest-rate expectations of households, which have fallen during the crisis, could also have contributed to rising prices. As there is still considerable uncertainty surrounding economic developments, there are also risks linked to price developments on the housing market. If the crisis were to deepen and become more prolonged, it might lead to a turnaround in developments on the housing market and to a fall in housing prices.

The Economic Tendency Survey indicates that companies have a pessimistic view of housing construction over the coming year. Many property developers have also had lower sales during the second quarter of 2020 than in previous years. This could partly reflect the fact that households have been cautious in purchasing new builds during the spring, when the situation on the housing market was even more uncertain. Now that prices have begun to increase again on the secondary market, this may contribute to a more positive development on the market for new builds and for housing developers. Although construction remains high overall from a historical perspective, it is still low in relation to population growth and housing requirements.⁴²

The housing market is important for financial stability

FI's stress tests aim to measure the debt-servicing ability of households and thus do not capture any effects on their consumption. Even if most households will probably be able to meet their debt payments, particularly if they are exempted from the amortisation requirement, their higher indebtedness may contribute towards a larger downturn in household consumption if the economic prospects were to deteriorate further, or if there were a significant fall in housing prices.⁴³

If households reduce their consumption, this could ultimately mean that Swedish companies become less profitable and that unemployment rises. This has been clear during the pandemic in some sectors, when household consumption declined significantly. Developments during the summer have been somewhat stronger, but consumption is still much lower than in the same period last year. However, the decline in household consumption could have been much worse if the crisis had spread to the housing market. A sharper fall in consumption would have exacerbated the situation even more for many companies and may have led to banks suffering greater credit losses. The strong developments on the housing market are therefore probably one important reason why the consequences for households and banks have so far been relatively limited.

Rising housing prices lead to rising debt in the longer run

However, the strong price growth on the housing market could build up risks as rising housing prices can lead to rising debts in the longer run. The growth rate in lending to households is 5.2 per cent, which is unchanged in relation to the most recent Financial Stability Report in May. Indebtedness among households is rising, however, and is currently at historically high levels. The debt amounts to just over 195 per cent of disposable household income (see Chart 17). If loans via housing cooperatives are included, the debt-to-income ratio of households amounts to 216 per cent. The fact that the debt-to-income ratio is rising sharply is linked to the fact that disposable income has developed very weakly during the crisis. The fact that household debt has

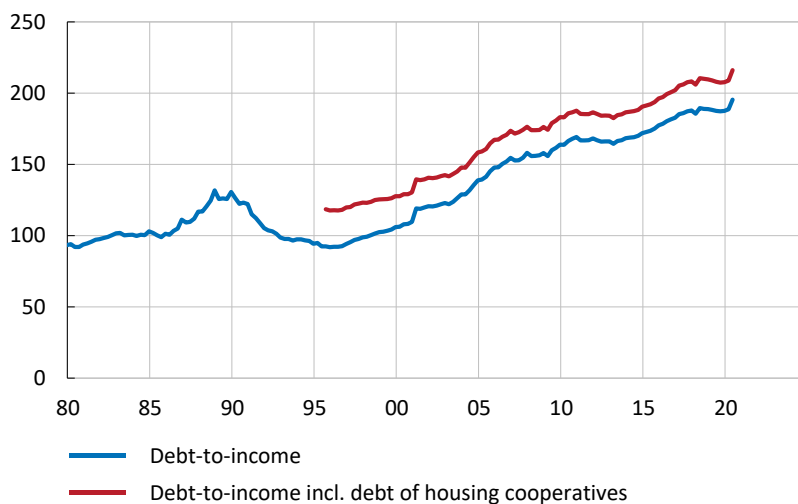
⁴² See *Boverkets indikatorer (Boverket's indicators)*, June 2020. Boverket (Swedish National Board of Housing, Building and Planning).

⁴³ For a more detailed discussion, see Relationship between household indebtedness and consumption during the financial crisis, box in *Financial Stability Report*, November 2019. Sveriges Riksbank.

risen over time has contributed to an increase in the trend for total debt in Sweden (see Chart 18).

Chart 17. Household debt

Percentage of annual disposable income

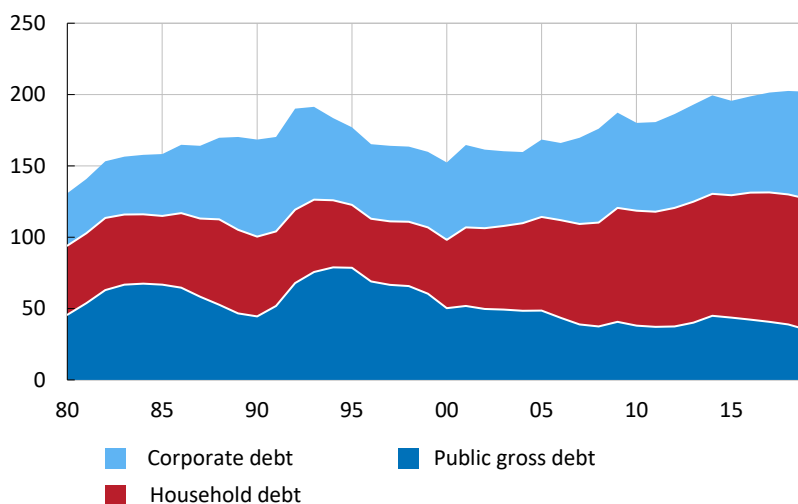


Note. Total household debt as a share of disposable household income added together over the last four quarters. Prior to September 2010, housing cooperative debt has been calculated based on loans from mortgage institutions.

Sources: Statistics Sweden and the Riksbank.

Chart 18. Debt in Sweden

Per cent of GDP



Note. The dark blue area shows the consolidated public gross debt from 1996. Between 1980 and 1995, the dark blue area shows the total debt instruments included in the Maastricht debt 1980-1997 according to the older definitions. Corporate debt includes loans from MFI and borrowing via commercial paper and corporate bonds. Statistics on borrowing via bonds have been collected from Statistics Sweden’s Financial Accounts and supplemented with data based on older classifications for the period 1980-1994.

Source: Statistics Sweden.

Over 80 per cent of household debt is linked to mortgages and the remainder comprises consumption loans, which include loans with collateral other than housing and loans without collateral, also known as unsecured loans. The growth rate in unsecured loans in recent years has remained at a relatively high level, around 8 per cent as an annual rate, which is higher than both the growth rate for mortgages and the growth rate for disposable household income.

According to FI's survey of consumption loans in 2020, two types of loan have increased the most in recent years.⁴⁴ These are large consumption loans, which have increased substantially, and small loans, in the form of overdrafts and credit card loans as well as purchases by invoice for less than SEK 10,000. The fact that large loans have increased rapidly can be explained by good economic developments prior to the pandemic, but it could also indicate that households are using loans to finance a down payment when buying a home. The increase in small loans can be attributed to the rise in e-commerce, where purchases are more often financed with credit or purchases by invoice. Many small loans may also be the start of a larger debt, if the borrower renews or extends the loans instead of paying them off. In addition, there is currently no way for lenders to obtain a complete picture of all the borrower's debts.⁴⁵ There is thus a risk that individuals who already have a high level of debt will borrow too much.

The Riksbank has warned earlier about the high rate of growth in consumption loans. Even if they comprise a limited share of total household debt, the high interest rates (almost 7 per cent on unsecured loans and just over 3 per cent on other loans) mean that they account for a large share of households' total interest expenditure, almost 40 per cent.⁴⁶ For many individuals, poorer economic conditions, such as loss of income or higher interest rates, could lead to payment difficulties. It is therefore important to follow future developments. Further defaults could also entail consequences for some of the lenders who have focused their operations on consumption loans.

⁴⁴ See *Swedish loans for consumption*, October 2020. Finansinspektionen.

⁴⁵ See *Consumer Protection on the Financial Market*, February 2020. Finansinspektionen.

⁴⁶ If amortisation payments are included, the share of debt payments made up by consumption loans increases even more.

2.4 Good resilience, but developments in the banking sector are fraught with great uncertainty



Stricter global and national requirements on banks' capital and liquidity since the global financial crisis meant that the five major banks in Sweden entered the coronavirus pandemic in a relatively good position. Even if the situation has deteriorated somewhat recently, most of the five major banks have had good profitability and low credit losses for a long time. Together with public-sector measures during the crisis, these factors have provided good conditions for them to maintain their lending. However, developments are associated with considerable uncertainty and there is a risk that bankruptcies will increase, and with them banks' credit losses. The Riksbank's stress test shows that banks could be impacted by significant credit losses should the crisis become deeper and more prolonged.

The five major banks in Sweden have good access to credit markets at the same time as deposits have increased

For banks to be able to maintain credit supply, they need access to funding. The five major banks in Sweden fund their lending with liabilities, just over half of which consist of deposits from households and companies, and the remaining part of issues of securities on financial markets.⁴⁷ Just under 40 per cent of the issues from the three major Swedish banks are denominated in Swedish kronor, while the rest are denominated in foreign currency. The banks are therefore dependent on Swedish and global financial markets functioning well. Impaired confidence in the financial sector abroad could therefore have a negative impact on the banks.

Thanks to central bank measures, the five major banks in Sweden have had good access to credit markets during the pandemic and have been able to satisfy their needs for wholesale funding. In addition, during the pandemic, deposits in the major banks in Sweden have increased. The Riksbank's bond purchases are a contributory cause as they increase the surplus of liquidity in the economy, which ultimately ends up in the banking sector, for example in the form of deposits. Companies and households also tend to increase their buffers when uncertainty is high, which may also have contributed to the increased deposits. One reason for the increase in deposits may also be that deposits are largely guaranteed by the state. This also leads to deposits, as a rule, being considered a stable source of funding for banks.⁴⁸

⁴⁷ The "major banks in Sweden" are Danske Bank, Handelsbanken, Nordea, SEB and Swedbank. The "major Swedish banks" are Handelsbanken, SEB and Swedbank.

⁴⁸ Under the deposit insurance scheme, account holders, under certain conditions, receive compensation of up to SEK 950,000 if the bank or institution in which they have deposited the money goes bankrupt. As from 1 January 2021, the maximum amount insured will be increased to SEK 1,050,000. In Sweden, the Swedish National Debt Office is responsible for the deposit insurance scheme.

Central bank measures have contributed to lower funding costs than before the pandemic

For banks to be able to lend money to households and companies on favourable terms, their costs for funding need to be low. The major banks' funding costs are now, in many respects, lower than before the pandemic, which in part can be explained by measures taken by the Riksbank and other central banks.

The three Swedish major banks' short-term funding largely takes place in US dollars that are then partly converted to Swedish kronor through foreign exchange swaps.^{49,50} The major banks are therefore particularly dependent on the dollar market. In general, risk premiums on banks' short-term funding increased sharply in the spring, but have subsequently fallen back. As a result, the short interest rate for dollar loans, USD LIBOR, has also fallen back. One of the most important reasons why short-term funding costs are now low is the swap arrangement agreed between the Federal Reserve and a number of central banks around the world with the aim of improving liquidity on global financial markets. As part of this arrangement, the Riksbank is offering dollars to Swedish counterparties at least until March 2021.

The Swedish interbank rate, the Stockholm Interbank Offered Rate (STIBOR), is largely based on banks' short-term funding in foreign currencies.⁵¹ USD LIBOR rose sharply at the beginning of the crisis, but as USD LIBOR has fallen, STIBOR has also decreased and short-term interbank rates are now lower than before the crisis (Chart 19). In turn, STIBOR affects the lending rate to companies and households in Sweden and it is therefore important for financial stability.

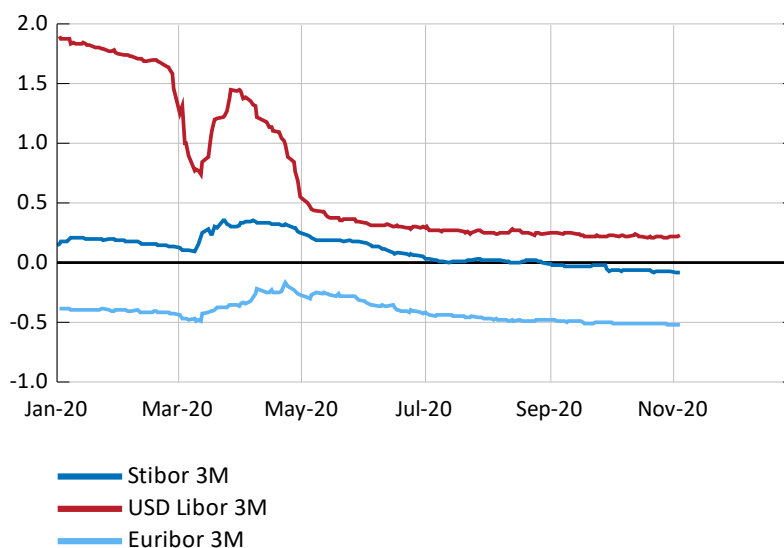
⁴⁹ Short-term funding is wholesale funding with instruments with a maturity of less than one year. The major Swedish banks' funding at short maturities often takes place in US dollars by the banks issuing a certificate of deposit (CD), in which the counterparty makes a deposit at the bank for a set time at a set interest rate, or a commercial paper (CP). Short-term funding for the major Swedish banks consists of dollars to about 70 per cent and euros to 20 per cent. One of the reasons that the banks use securities in foreign exchange for short-term funding is that no larger liquid market exists in Swedish kronor.

⁵⁰ See The interconnectedness of insurance firms, AP Funds and banks via the foreign exchange market, Article in *Financial Stability Report*, May 2020. Sveriges Riksbank.

⁵¹ See How is STIBOR determined?, Fact Box in *Financial Stability Report*, May 2020. Sveriges Riksbank.

Chart 19. Reference rates

Per cent



Note. USD Libor, Euribor and Stibor are so called reference rates in the US, the Euro area and Sweden. The American and European rates largely affect Stibor (see How is Stbor determined?, fact box in *Financial stability*, May 2020. The Riksbank.).

Source: The Riksbank.

A large part of the long-term funding of the major banks in Sweden consists of covered bonds, primarily denominated in Swedish kronor but also in euros. For the banking system as a whole, covered bonds make up about 70 per cent of total funding for Swedish mortgages, making this source of funding of considerable significance for the Swedish banking system.

Since the spring, banks have reduced their issues of covered bonds. This may partly be due to banks being offered funding through central bank loans, and partly to increased deposits from the general public.⁵² The spread between the yield on covered bonds and the risk-free yield has decreased from the elevated levels in the spring and is now at lower levels than before the outbreak of the pandemic.⁵³ One explanation for this is that the Riksbank has been purchasing covered bonds since March, which has pushed down the yield on these securities. In addition, the ECB has extended its programme for lending to non-financial companies via the banking sector. As banks in Europe can thereby finance their assets through loans from the ECB, the need to issue bonds has decreased. This has caused the supply of bonds in Europe to decrease and yields to fall. The fall in yields on covered bonds is contributing to lower funding costs for banks and ultimately to low interest rates for households.

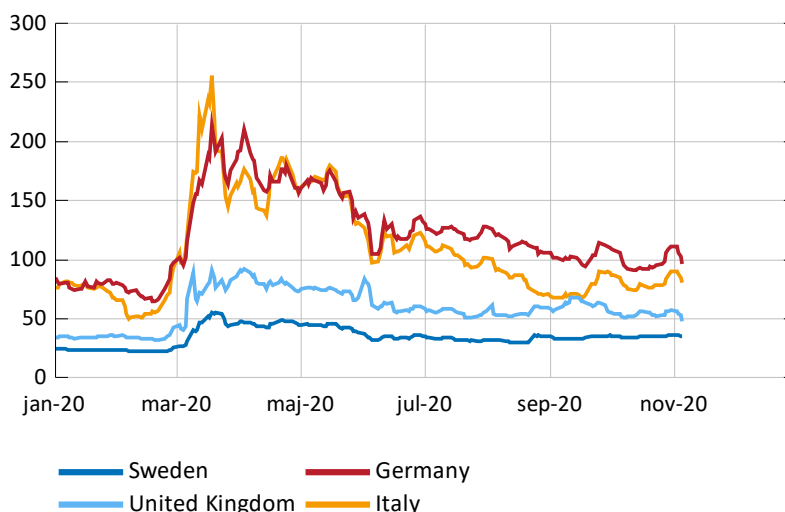
⁵² For example, in March, the Riksbank launched a programme offering banks loans against collateral totalling SEK 500 billion on particularly favourable terms if banks increase their lending to non-financial companies operating in Sweden.

⁵³ The risk-free yield here refers to the swap rate with the same maturity as the covered bonds.

In addition, the banks need to issue unsecured bonds, for example to fund lending to companies but also to fulfil the Swedish National Debt Office's minimum requirements for own funds and eligible liabilities (MREL). This is necessary for the Swedish National Debt Office to be able to implement resolution in which liabilities can be written down and converted into capital. Unsecured bonds do not give investors the same priority to a specific cover pool as covered bonds do, which makes them more price-sensitive in stressed periods. The costs of issuing unsecured bonds are illustrated here by premiums on what are known as Credit Default Swaps (CDS). CDS premiums have fallen since the spring and are lower for the three major Swedish banks than they are for banks in other European countries. This could be interpreted as market participants valuing the risk as lower in the banking sector in Sweden (see Chart 20).

Chart 20. Five-year CDS premiums for banks

Basis points



Note. Average of comparable major banks domiciled in each country respectively. CDS premiums indicate the banks' costs for unsecured borrowing on the bond market. Sweden refers to a non-volume-weighted average for the three major Swedish banks.

Sources: Markit and the Riksbank.

Alongside banks' costs for obtaining funding on capital markets now being lower than before the coronavirus pandemic, the generally low level of interest rates means that the interest rates that banks pay on deposits are around zero per cent. This means that their funding costs as a whole are low. Taken together, banks thus have plenty of scope for maintaining credit supply to companies and households.

More stringent requirements on capital and liquidity have boosted banks' resilience

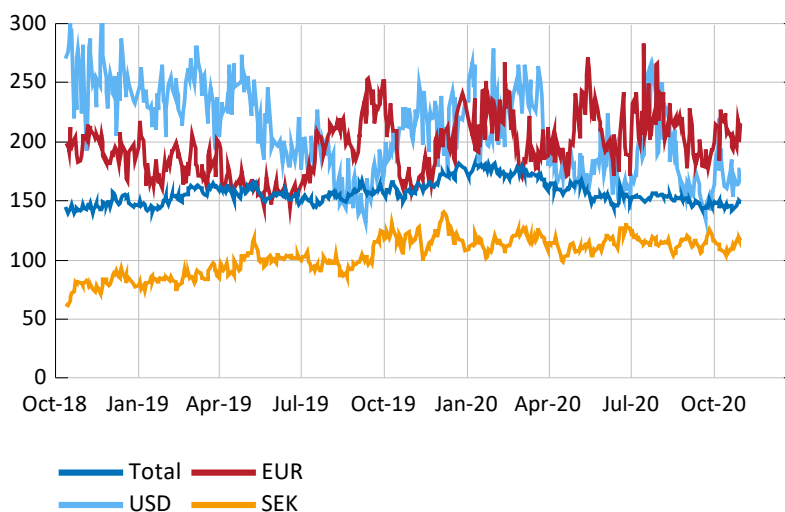
After the global financial crisis of 2008-09, banks around the world have had to follow more and stricter regulations, which has prompted them to increase their equity and thereby their capacity to better withstand a crisis. Capital requirements have been tightened with higher minimum requirements and requirements for buffers that can

be used in an economic downturn. In addition, banks now must have greater liquidity buffers (Liquidity Coverage Ratio, LCR) and more stable funding (Net Stable Funding Ratio, NSFR). Since the financial crisis, banks must also fulfil MREL requirements, that is, a certain level of capital and liabilities that could be converted into capital if the bank were to end up in a crisis. The Swedish National Debt Office's application of the regulations means that the three major Swedish banks need a certain amount of unsecured liabilities with a maturity of over one year that can be converted into capital.

Common Equity Tier 1 (CET 1) capital ratios for the major banks in Sweden are almost 18 per cent. Leverage ratio has normally been within the interval of four to five per cent in recent years and, at the end of the third quarter of this year, was 4.8 per cent on average. The three major Swedish banks have long shown higher LCR levels than the requirements imposed by FI, both in total currency and in individual significant currencies (see Chart 21). Since the requirement for LCR in significant currencies was introduced, the major Swedish banks have also increased their LCRs in Swedish kronor. As these banks meet the requirements by a good margin, they have also been able to use parts of their liquidity reserves during the pandemic and simultaneously comply with the requirements.

Chart 21. LCR in various currencies for the major Swedish banks

Per cent



Note. Refers to a non-volume-weighted average for the three major banks in Sweden.

Source: The Riksbank.

At the end of June, the banks had volumes of unsecured bonds that exceeded what was needed to meet the Swedish National Debt Office's requirements. The surplus amounted to about SEK 140 billion. Even if this can be considered a comfortable margin, the banks will eventually have to issue new unsecured bonds to replace those reaching maturity. In conjunction with the introduction of the minimum requirement for own funds and eligible liabilities (MREL), the Swedish National Debt Office decided

on a principle that the requirement must be met with capital and subordinated liabilities.⁵⁴

Relaxation of regulations is making it easier for banks to maintain credit supply

The coronavirus pandemic has led authorities in Sweden and the rest of the world to take measures to support credit supply. FI has cut the countercyclical capital buffer to zero per cent, which has freed up capital for Swedish banks. Several banks have also announced that they are not planning to pay dividends generated in 2019 to shareholders in 2020.⁵⁵ In addition, FI is allowing banks to fall temporarily below the liquidity coverage requirement (LCR) so that the requirement does not restrict their lending.

The Swedish National Debt Office has previously decided that banks must replace the unsecured bonds used to meet the MREL requirement with subordinated bonds, which in general are more expensive for banks to issue. To facilitate banks' funding situation and enhance their capacity to support credit supply, the Swedish National Debt Office has decided to postpone the deadline for when the requirement is to be fulfilled from 2022 to 2024.

In Sweden, public-sector measures have meant that neither capital, liquidity nor MREL requirements stand in the way for the major Swedish banks to support credit supply (see the article "Banks' lending capacity in light of the coronavirus pandemic"). In addition, banks can borrow up to SEK 500 billion via the Riksbank to fund their lending to companies. It is therefore the Riksbank's assessment that access to liquidity will not limit banks from supplying credit during the pandemic.

Increased credit losses could threaten credit supply

The banks' credit loss provisions have increased this year, which has a negative effect on their earnings (see Chart 22). The five major banks in Sweden made total credit loss provisions of about SEK 28 billion in the first three quarters of the year.

However, there is a substantial risk that the number of corporate bankruptcies will increase due to the coronavirus pandemic, and thereby also a risk of further increases in credit losses (see Section 2.2 "Some recovery in the Swedish corporate sector but uncertainty remains").

In a bad scenario, where the crisis becomes prolonged and prices of housing and commercial property fall substantially, the Riksbank's stress tests show that credit losses

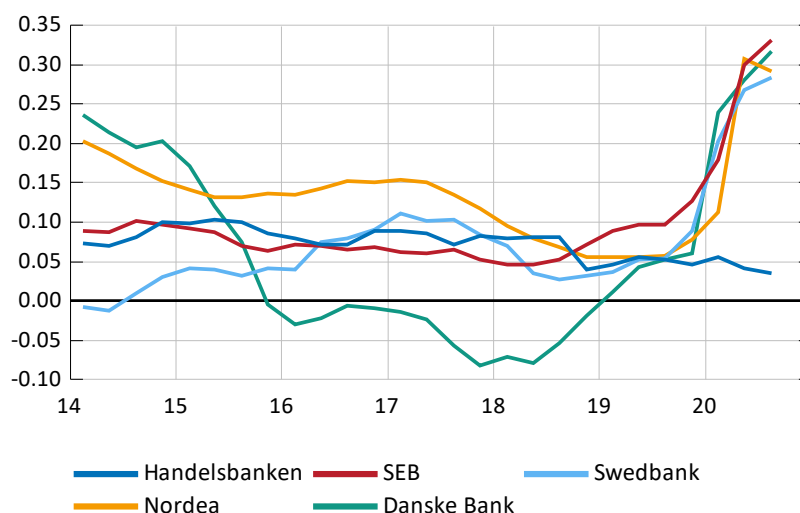
⁵⁴ When an instrument is subordinated, it must come after the liabilities in the order of priority that the resolution authority is unable or unwilling to write down, such as deposits from private persons.

⁵⁵ The three major Swedish banks' planned dividends for 2019 totalled SEK 34 billion. Normally banks make deductions for their planned dividends, which means that the part of the profits that is planned to be distributed is not added to the capital base in the accounts. Even though no banks have distributed their planned dividends, the majority have chosen to retain their deductions.

could increase to such an extent that banks may find it difficult to maintain credit supply without continued public support (see the section “Reported credit losses are lower than in the Riksbank’s stress test”).

Chart 22. Credit loss provisions in relation to lending to the public for the major banks in Sweden

Rolling four quarters, per cent



Sources: Bank reports and the Riksbank.

The banking sector in Europe has long had problems that risk being exacerbated by the pandemic

The banking sector in Europe has long been fraught with low profitability, high costs and large volumes of assets of poorer credit quality. The market’s assessment of the future profitability of European banks is therefore lower than it is for the major banks in Sweden. This may partly be due to expected earnings and cost-effectiveness being higher in Sweden. In addition, provisions for credit losses have increased to a greater extent among banks in Europe than they have in Sweden.

The EU has made some amendments to the accounting rules so that banks no longer need to report and cover non-performing loans with capital in the same way as before. Within the EU, loans guaranteed by a state also receive a lower risk weight than otherwise, which helps to reduce banks’ capital requirements. As a result, the volume of loans that are of poor credit quality may be greater than is indicated by the statistics (see the fact box “IFRS 9 and measures in light of the coronavirus pandemic”). As the volume of non-performing loans is relatively low in Sweden, the amended accounting rules are of less significance for the Swedish banking system.

FACT BOX – IFRS 9 and measures in light of the coronavirus pandemic

As of January 2018, banks must apply the IFRS 9 accounting standard, requiring them to use a forward-looking model (Expected Credit Loss, ECL) to record credit losses in their financial reports.⁵⁶ The standard takes different information into account, including forecasts of future macroeconomic conditions. Credit losses usually occur during economic slowdowns. The model for expected credit losses, which reflects future macroeconomic conditions, involves increased credit losses being reported when the first signs of an economic slowdown are seen. A deterioration in the macroeconomic outlook should thus lead to increased provisions for credit losses.

IFRS 9 has a certain amount of flexibility built into it, allowing each bank to calculate its credit losses according to its own credit loss model. In practice, this means that each bank will report credit losses differently if they make their own macroeconomic assumptions. As a complement during the coronavirus pandemic, banks have also taken advantage of the possibility of a qualitative, expert-based assessment of credit losses. This has been done due to significant uncertainty over the future.

In the wake of the coronavirus pandemic, reported credit losses have increased in Sweden and the rest of Europe. To mitigate the economic effects of the pandemic and reduce the risk of a credit crunch, supervisory authorities in Sweden and the rest of Europe have introduced some temporary easing in the IFRS 9 regulatory frameworks. For example, they have introduced a two-year extension of the phase-in arrangements for IFRS 9 into the capital requirement regulations. Under these arrangements, the application of which is voluntary, the effect of IFRS 9 on CET 1 capital will be phased in over several years. This means that reported capital adequacy will be higher during the phasing-in period than would otherwise have been the case.

The European Banking Authority (EBA) has also issued guidelines stating that loans guaranteed by the state must not lead to an elevated credit risk. The EBA has also published guidelines on moratoriums (payment forbearance), according to which loan payments covered by the forbearance and stemming from the coronavirus pandemic are not to be classified as non-performing loans. The measures cover moratoriums granted up to the end of September 2020. However, banks must continue to monitor borrowers who may experience long-term financial difficulties and classify these exposures according to the current regulations.

⁵⁶ IFRS is an abbreviation for International Financial Reporting Standard.

Reported credit losses are lower than in the Riksbank's stress test

During the spring, very little was known over the effects the pandemic would have on the Swedish economy. Due to this uncertainty, the Riksbank used two different scenarios in the stress test published in the spring Financial Stability Report. Added together over the three years in the scenarios, and for the four major banks in Sweden (Handelsbanken, Nordea, SEB and Swedbank), credit losses in the spring stress test amounted to SEK 201 billion in the softer of the two scenarios (scenario A) and to SEK 476 billion in the more serious scenario (scenario B). In both cases, this is significantly more than these four banks have reported as expected credit losses over the first three quarters of this year, just under SEK 19 billion. However, the stress test results are not comparable with what banks have reported. Even though, according to IFRS 9, banks are to use forward-looking models in their calculation of expected credit losses, the scenario may differ from the one used by the Riksbank. The banks' reported losses are to be seen more as a forecast, while a stress test is designed to describe a possible development in a stressed scenario.

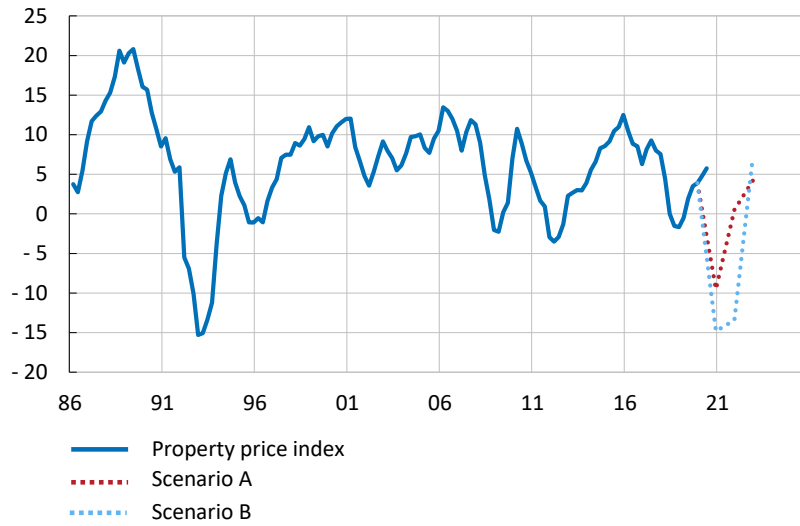
Over the year, the Government, the Riksbank and other Swedish public authorities have taken comprehensive measures to support the Swedish economy and the financial system. These measures have contributed to economic developments being better than assumed by the scenarios. Among other things, both scenarios involved relatively sharp falls in housing prices, while the actual development shows that housing prices have risen (see Chart 23).

As the Riksbank's model allows the development of housing prices to play a major role in explaining banks' credit losses, this difference is highly significant. In addition, GDP and unemployment have so far developed more favourably than the scenarios assumed. It is, however, too early to evaluate the stress test as only three quarters have passed so far, and the stress test runs for over three years.

Furthermore, the results of a stress test are affected by its design. For a given macroeconomic scenario, different calculation methods can lead to many different results (see the fact box "Substantial uncertainty in stress-testing").

Chart 23. Housing prices historically and in the scenarios in the spring Financial Stability Report

Annual percentage change



Note. For more information on the different scenarios, see The Riksbank's stress-testing of banks' capital – an update, Article in *Financial Stability Report*, May 2020. Sveriges Riksbank.

Sources: Statistics Sweden and the Riksbank.

FACT BOX – Substantial uncertainty in stress-testing

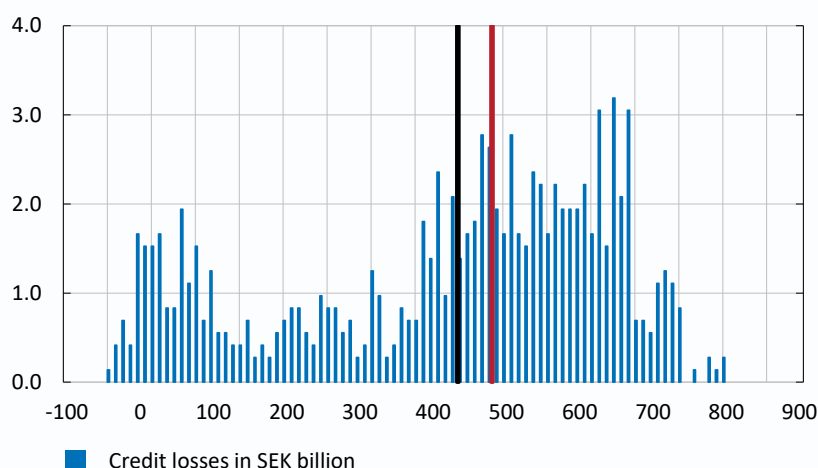
The Riksbank's stress test models of banks' capital are always associated with uncertainty that can affect the results, regardless of how the economic developments in the scenario appear. Several different factors create this uncertainty, such as the type of historical data used and the variables included in the models.⁵⁷

The specification of the models, which is to say how they attempt to explain the development of credit losses through developments in other real economic and financial variables, is one of the factors that affects the results. There is no single correct way of specifying credit loss models. However, there are various economic correlations that can be used as a basis and there are also various statistical measures that can be used to determine whether a specific model works well or poorly.

The uncertainty in the specification of the credit loss model included in the Riksbank's stress test can be illustrated using the results of a number of different specifications that are all based on the same macroeconomic scenario. Chart 24 shows the results of such a comparison. Here, the more serious scenario from the spring FSR (the scenario that resulted in SEK 476 billion in total credit losses for the four major banks in Sweden) is used in a number of different specifications of the credit loss model. The results vary from slightly negative figures to about SEK 800 billion in credit losses. As the chart shows, the result of the specification preferred in the Riksbank's stress test lies approximately in the middle. In general, specifications that consider developments in housing prices to a high degree tend to result in higher credit losses.

Chart 24. Uncertainty in the Riksbank's credit loss model

Percentage of model specifications, per cent



Note. Refers to results from just over 700 different specifications. The red line marks the level of credit losses in the Riksbank's model (SEK 476 billion) and the black line marks the average credit loss level for all models (SEK 426 billion).

Source: The Riksbank.

⁵⁷ For more information on the Riksbank's stress test, see D. Buncic, J. Li, P. van Santen, P. Wallin, and J. Winstrand (2019), The Riksbank's method for stress tests of banks' capital, *Staff Memo*. Sveriges Riksbank.

2.5 Some investment funds and insurance companies vulnerable to renewed turmoil on financial markets



Swedish corporate bond funds have had net inflows of capital from fund investors since the major outflow in March, when a number of Swedish funds with holdings in corporate bonds had to cease trading temporarily. If there were to be renewed turbulence on financial markets, stress could arise again for funds of this type and could also spread to other markets. As regards insurance companies, a large proportion of their portfolios still consist of equities, and they are thus still sensitive to market risk. It is also a challenge for insurance companies that the level of interest rates is expected to be very low for an even longer time to come. This could lead them to choose riskier assets to have in their portfolios in order to meet existing required rates of return.

Swedish fund investors again want riskier assets in their portfolios

In March 2020, fund investors made major capital withdrawals from Swedish corporate bond funds and other investment funds with holdings in corporate bonds. Together with high stress and insufficient liquidity in the corporate bond market, this caused several funds to temporarily cease trading.⁵⁸ Since then, Swedish corporate bond funds have again had net inflows of capital (see Chart 25). Together with positive market developments for corporate bonds, the inflows have brought the total wealth of Swedish corporate bond funds more or less back to the same levels as prior to the coronavirus pandemic, just over SEK 174 billion at the end of September.⁵⁹ In addition to corporate bond funds, fund investors have made net deposits in equity funds in recent months.⁶⁰ This concerns, for example, deposits in funds investing in the US tech sector, which has seen strong stock market growth since the spring. Risk appetite thus returned rapidly among fund investors. The current calmer situation on financial markets, compared with in the spring, in part due to the measures taken by governments and various public authorities, has contributed to this development (see Section 2.1 “Coronavirus pandemic dominating the risk outlook abroad”).

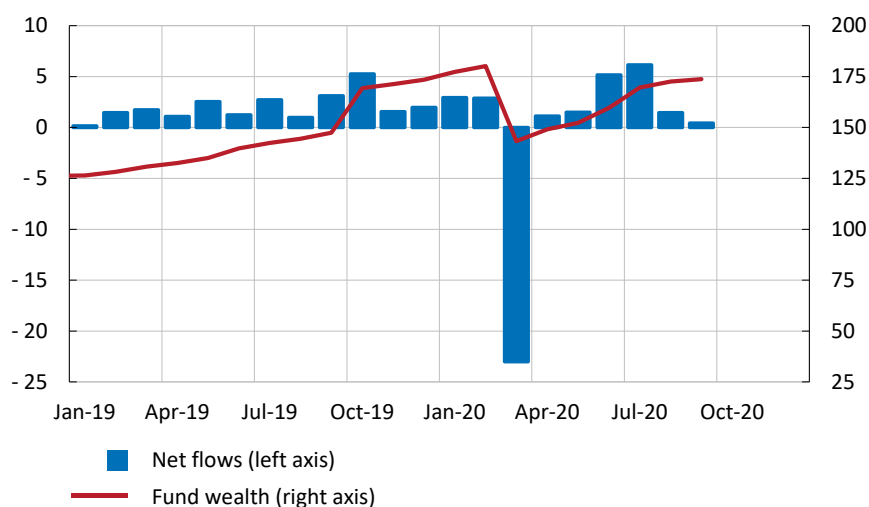
⁵⁸ See *Financial Stability Report*, May 2020. Sveriges Riksbank.

⁵⁹ Taken together, Swedish investment funds own corporate bonds issued by Swedish companies in Swedish kronor to a value of just over SEK 200 billion, corresponding to just over one-third of the total outstanding volume of corporate bonds in Swedish kronor. As well as more specialised corporate bond funds, some other types of fund also own corporate bonds. Mixed funds are one example. As stated earlier in the report, corporate bonds refers to bonds issued by non-financial companies.

⁶⁰ Equity funds also had large outflows from fund investors in March.

Chart 25. Net flows and fund wealth in Swedish corporate bond funds

SEK billion



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

Source: Macrobond.

Funds with holdings in Swedish corporate bonds continue to be exposed to liquidity risks

As funds have large holdings of Swedish corporate bonds, they are important to the funding of Swedish companies, and funds' actions on the market have a bearing on companies' costs and ability to obtain funding via the bond market. Problems or stress among funds with holdings in corporate bonds can thereby spread to the corporate sector and real economy. In addition, funds are major investors in other financial markets, which means that any problems or stress can also spread to other parts of the financial system. For example, in March 2020, funds contributed to, for instance, that problems on the corporate bond market spread to the market for covered bonds.⁶¹

Even if the Swedish corporate bond market is working better now than in the spring, there remain certain shortcomings on the market that existed before the coronavirus pandemic broke out, such as a lack of transparency and limited liquidity (see the section "The crisis exposed shortcomings on the corporate bond market"). At the same time, the situation for funds is, in many ways, the same as in the spring.⁶² For example, there are no new tools that they could use to manage their liquidity situation in a position where increased stress is causing large net outflows.⁶³ It continues to be common for these types of fund to offer investors daily withdrawal possibilities, at the same time as rapidly selling large volumes of corporate bonds from funds' portfolios

⁶¹ See *Financial Stability Report*, May 2020. Sveriges Riksbank.

⁶² One change is that the sector has developed a new measure of risk for funds to report to fund investors. This measure is called *spread exposure* and measures credit and liquidity risks in fixed-income funds.

⁶³ Examples of such tools include temporary fees for withdrawals, temporary withdrawal limits or the possibility of temporarily cancelling the right to withdrawals. The amount of available tools varies from country to country across Europe.

may be difficult in a stressed situation. This kind of *liquidity transformation* makes funds sensitive and the stressed situation that arose for funds in March could thereby reoccur if financial markets become turbulent. Liquidity transformation is not unique to some Swedish funds, but has long been highlighted as a vulnerability for parts of the European fund sector.⁶⁴ This vulnerability became particularly substantial across Europe in the spring.⁶⁵

Challenging interest rate environment for insurance companies going forward risks leading to continued high risk-taking

The coronavirus pandemic has powerfully impacted the real economy and financial markets and has additionally led to the low level of interest rates being expected to persist for an even longer time to come. This creates challenges for insurance companies. Above all, it may cause insurance companies to continue to take greater risks with the aim of obtaining sufficient returns to be able to maintain their commitments to policyholders. The challenges are particularly major for life insurance companies offering savings products with financial guarantees, as there are then existing implicit required rates of return that must be maintained, even when interest rates are low. Over the last decade, Swedish life insurance companies have chosen to increase the proportion of equities in their investment assets. Equities stood for just over half of investments (excluding unit-linked life insurance policies) at the end of the second quarter of 2020 (see Chart 26), which is significantly more than in many other European countries. The high proportion of equities makes Swedish life insurance companies sensitive to market risk. A fall in equity prices could impair their solvency situation. This occurred initially in the spring, but the solvency situation has subsequently recovered in step with the equity market.⁶⁶

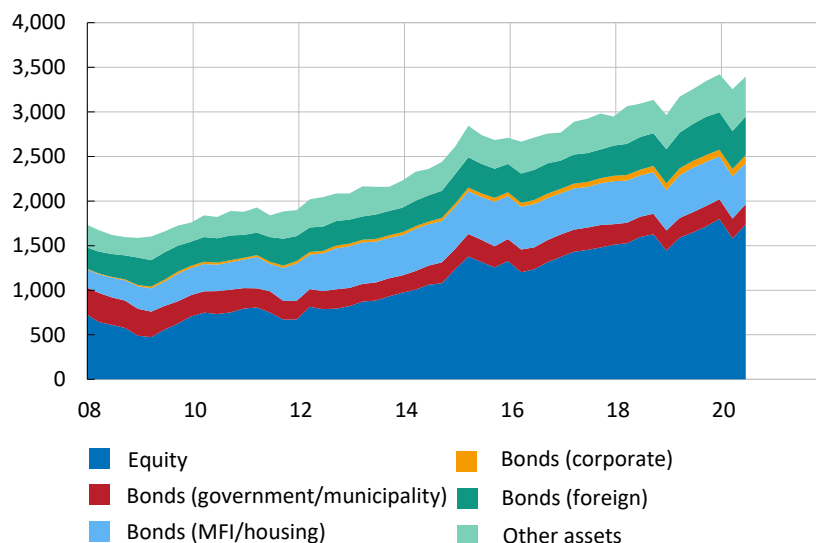
⁶⁴ See, for example *EU Non-bank Financial Intermediation Risk Monitor*, October 2020. European Systemic Risk Board, and *Stress simulation for investment funds*, September 2019. European Securities and Markets Authority.

⁶⁵ See, for example, *Recommendation on liquidity risks in investment funds*, May 2020. European Systemic Risk Board.

⁶⁶ *Stability in the financial system*, June 2020. Finansinspektionen.

Chart 26. Investment assets for Swedish life insurance companies

SEK billion



Note. Unit-linked life insurance policies are excluded. The category “Other assets” includes short-term investments, freehold land and buildings and others.

Source: Statistics Sweden.

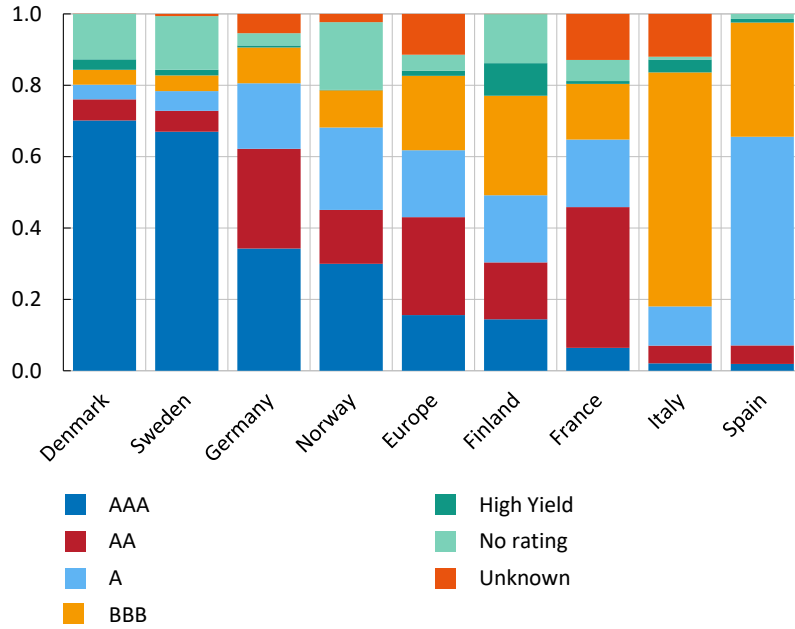
The European Insurance and Occupational Pensions Authority (EIOPA) also deems that the greatest risk for the European insurance sector going forward is linked to various macro-risks such as the low level of interest rates. In addition, the European insurance sector is deemed to be highly exposed to credit risks as the coronavirus pandemic is expected to lead to an increased number of negative credit events in the period ahead. For example, the proportion of defaults among bond issuers is expected to increase, as is the downgrading of credit ratings for these issuers and their bonds.⁶⁷ Such downgrades, particularly from investment grade to high yield, could lead to large-scale sales of bonds with accelerating price falls and increased yield spreads as a result.

However, Swedish insurance companies have higher credit quality in their portfolios than their counterparts in many other European countries (see Chart 27). As the outbreak of the coronavirus pandemic did not entail any greater redistributions in Swedish insurance companies’ asset portfolios, they are above all exposed to market risk going forward and, to a lesser extent, to credit risk.

⁶⁷ See *Risk Dashboard*, July 2020. European Insurance and Occupational Pensions Authority. EIOPA also highlights market risks, together with risks of reduced profitability and lower solvency, as major risks for the European insurance sector.

Chart 27. Credit quality of the insurance sector’s bond portfolios in various European countries

Proportion of bond holdings



Note. Refers to data from the fourth quarter of 2019.

Source: EIOPA.

2.6 The financial infrastructure is functioning well at present but vulnerabilities remain



Overall, Swedish financial infrastructure systems are functioning smoothly and availability has so far been high in 2020. However, there are vulnerabilities, such as the outsourcing of services, that may impact the availability of the systems, making effective governance and risk management essential. Financial market infrastructures (FMIs) have capital buffers that provide preparedness for stressed situations. However, in some cases, the buffers are close to minimum levels, which may entail risks. Central counterparties (CCPs) are sensitive to large market movements, which makes them vulnerable and may create risks to the financial system. Sweden has not yet fully implemented European standards on the securities market. It is, however, important that this EU harmonisation takes place as soon as possible, as it would increase efficiency in the financial system.

Availability is high despite major adjustments during the coronavirus pandemic

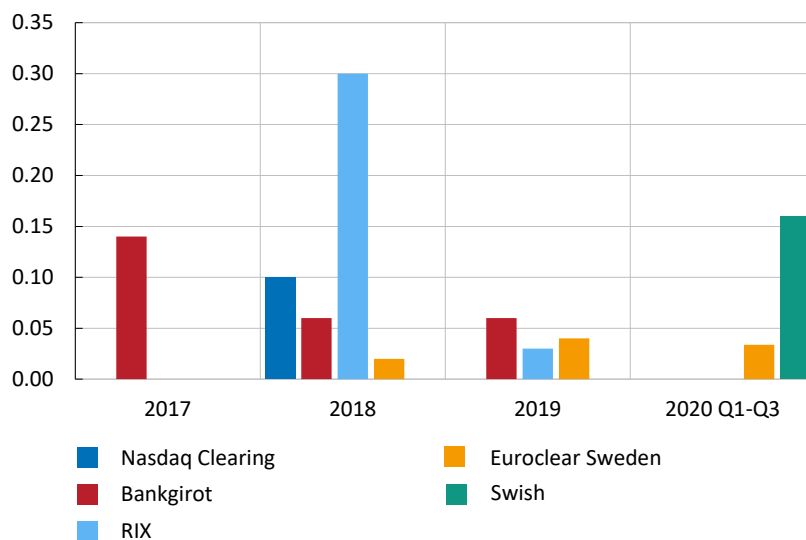
The Riksbank places great importance on high availability in the financial infrastructure systems as this is necessary to enable transactions and payments. In the first three quarters of 2020, availability has been high and the technical systems have been stable in the FMIs under the Riksbank's oversight (see Chart 28). Swish, however, has had more interruptions than the other infrastructure systems.⁶⁸

As for the rest of society, the coronavirus pandemic has forced FMIs to adjust their operations, for example by having many employees working from home. The systems have also occasionally come under extra strain as the market turbulence during the spring generated more transactions than normal. However, as there have been few disruptions and interruptions over the period, the Riksbank's assessment is that the FMIs have handled the situation well.

⁶⁸ The interruptions in Swish illustrated in Chart 28 may be due to interruptions in the Bankgirot platform Betalningar i Realtid, BankID or GetSwish.

Chart 28. Interruptions to the Swedish infrastructure systems

Per cent



Note. 0 per cent means that the system has been available the entire time without interruption. 0.2 per cent corresponds to an interruption of 5 hours over a period of one year. 0.2 per cent over a period of three quarters corresponds to about 3 hours and 45 minutes. Corresponding interruption times for Swish are about 17.5 hours and 13 hours respectively, as the service is available around the clock, every day of the year. Interruptions in Swish are calculated as the total interruption time for the Bankgirot platform Betalningar i Realtid, BankID and GetSwish. Note that the chart shows availability figures for Swish with effect only from 2020.

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

Good governance and risk management are essential for managing risks to availability

Even though the financial infrastructure systems are presently functioning satisfactorily, the Riksbank sees some vulnerabilities that could affect availability in the longer run. One vulnerability is linked to governance and risk management. In previous Financial Stability Reports, the Riksbank has pointed out shortcomings in some FMIs regarding their scope for making independent decisions, for example because a parent company influences the subsidiary's governance.⁶⁹ There have also been certain shortcomings in the FMIs' policy documents and their compliance with them that could affect their risk management, among other things. The FMIs have made some progress, including putting further policy documents into place. Going forward, however, the FMIs need to follow these, at the same time as they demonstrate compliance with the international principles.⁷⁰

Another vulnerability linked to governance and risk management is the comprehensive outsourcing of critical services by FMIs. Outsourcing entails careful monitoring of

⁶⁹ It can, for example, be a question of the parent company influencing decisions taken by the subsidiary's management team, which may hamper the FMI's improvement work.

⁷⁰ The Riksbank uses CPMI-IOSCO's Principles for Financial Market Infrastructures (PFMI) in its oversight of FMIs. At least every two years, or more frequently in the event of major changes, FMIs under oversight must publish a disclosure report, in which they present how they fulfil the requirements set by the Riksbank.

deliveries from critical service providers so that various risks can be managed. Operational risks do not disappear because of outsourcing; instead the risks change. Governance and management of the new risks thereby become increasingly necessary to safeguard the systems' capacity and security.

Another vulnerability is related to major system changes. It is important that the systems continuously function well and consequently they must continually be updated and maintained. However, further development leads to the risk of interruptions and disruptions and it is therefore important to minimise these risks through good risk management. Due to the pandemic, improvement and development work differs from normal, in part due to many employees working from home. This means that the risks are greater than normal. There is also a risk that companies' adjustments due to the pandemic will ultimately lead to the further development of the technical systems largely coming to a halt.

Capital buffers close to minimum levels can entail risks in stressed situations

An FMI under the Riksbank's oversight must hold easily accessible, high-quality capital to safeguard its survival.⁷¹ The amount of capital shall be based on the FMI's risk profiles and the amount of capital needed for it to be able to manage stressed situations. It shall also have enough capital to allow plans for recovery or orderly wind-down to be realised. At a minimum, the capital shall equal at least six months' operational expenditure. This minimum level must not be undercut, even if the FMI itself has calculated that less capital would be needed to cope with stressed situations and to realise plans for recovery and orderly wind-down.

The FMIs currently meet the minimum level for capital.⁷² Bankgirot, however, is close to the minimum level.⁷³ A capital level close to the minimum level can entail a risk of this being undercut if something unexpected happens. This would mean that the FMIs would no longer have enough capital to ensure the continuity of its operations and to cope with further stress.

Less market turbulence has made the situation more predictable for central counterparties but this could change rapidly

The role of central counterparties (CCPs) in the financial system is to deal with counterparty risk, which means that they, like banks, are exposed to credit and liquidity risks. Consequently, specific demands are made of CCPs that they have sufficient financial resources in the form of liquidity and capital to manage these risks. This reduces the risk of possible participant failure having major consequences for the financial system. The amount of liquidity and capital the CCPs have available to manage

⁷¹ This is specified in PFMI (see footnote above). For more information, see *Financial Infrastructure Report*, June 2016. Sveriges Riksbank.

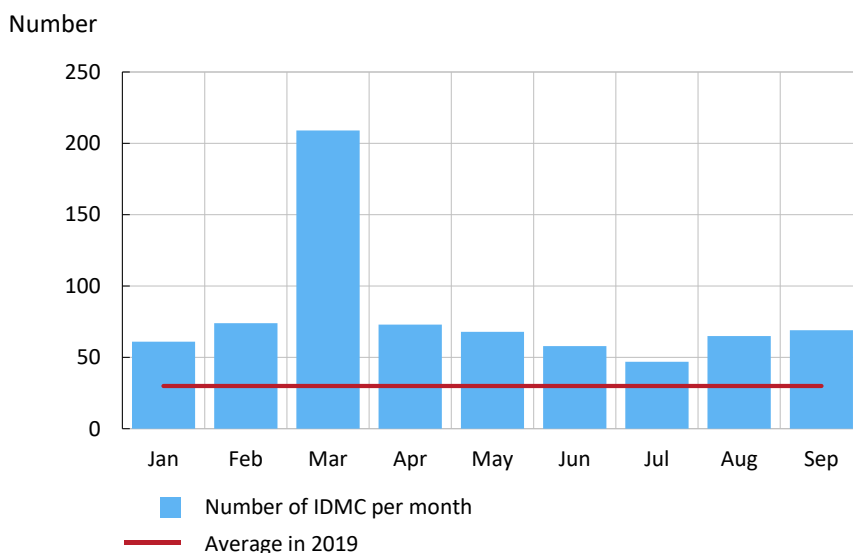
⁷² One way of illustrating the capital level is through what are known as Orderly Wind-Down (OWD) ratios. This is calculated as the ratio between a company's net liquid assets and average half-year expenditure (operational expenditure including interest) for the last 3 years. An OWD ratio of 1 means that operations can continue for 6 months without income.

⁷³ The Riksbank's assessment is based on Bankgirot's annual report as of 31 December 2019.

participant failure is determined by their own models. The models must therefore consider that unexpected events may occur. If the models do not make enough allowance for stressed situations, the financial risks may be greater than the CCPs and their participants can manage.

When markets are turbulent and unexpected events occur, the risks of default are greater, as are the risks that the models fail to capture these changes sufficiently. During the financial market turbulence in the spring, exposure among the CCPs, including Nasdaq Clearing, varied greatly. It also meant that some participants during a trading day needed to provide further collateral to cover their risk exposure, known as intraday margin calls (IDMCs). The situation is now more stable, which can be seen in the declining number of IDMCs, among other things (see Chart 29). However, it is important that market participants continue to be prepared to pledge additional collateral if movements on the market increase sharply again.

Chart 29. Extra collateral requirements during the day at Nasdaq Clearing



Note. A participant having to pledge additional collateral on the trading day to cover its risk exposure is referred to as intraday margin call (IDMC). This happens when the risk in a participant's portfolio exceeds a predetermined level. The line in the chart represents the average number of IDMCs per month at Nasdaq Clearing in 2019. The bars represent the number of IDMCs per month in 2020 at Nasdaq Clearing. Note that the chart only reflects IDMCs in the financial clearing.

Source: Nasdaq Clearing.

The CCPs need to be prepared for possible participant failures, which could lead to high liquidation costs. Nasdaq Clearing had a participant failure in 2018.⁷⁴ Since then, they have worked on their financial risk management and made much progress. For example, their models now take liquidation costs into greater account.

⁷⁴ In September 2018, there was a participant failure at Nasdaq Clearing when a participant in Nasdaq Clearing's commodity clearing was unable to pledge sufficient collateral for their exposures to the electricity market. For more information, see *Financial Stability Report*, November 2018. Sveriges Riksbank.

Harmonisation is contributing to increased efficiency in the financial system

Over the last 10 to 15 years, many initiatives have been taken in the financial system in Europe to harmonise processes and standardise message formats. Among other things, this concerns the information sent between financial participants when payments and securities transactions are to be executed. The aim of harmonisation is to create better conditions for an effective market for capital and financial services. One way of doing this is to minimise the procedural differences between countries, for example in the settlement of securities. Consequently, agreement has been reached in Europe on standards that describe the implementation of various processes in detail. In addition, as a result of this harmonisation, several countries share technical systems and platforms, which creates economies of scale.⁷⁵ Sweden, however, has not fully implemented the European standards, for example on the securities market. Among other things, this can entail higher costs for financial participants wishing to conduct operations in both Sweden and on other European markets.⁷⁶

Since the start of 2020, the Riksbank has taken the initiative, together with market participants, to harmonise the Swedish securities market's post-trade processes with European standards.⁷⁷ The market has also taken its own initiatives to promote harmonisation. For example, a structural transformation is underway on the payment market with the objective of creating joint Nordic processes for payments.⁷⁸ The idea is that these processes will also be harmonised with the euro area's processes. In the long run, this could contribute to increased efficiency in the financial system by promoting cross-border activities, among other things. This, in turn, could increase competition in the financial system and lead to lower transaction costs.

⁷⁵ An example of platform-sharing is the Eurosystem's TARGET2-Securities (T2S) platform, on which securities transactions are settled. 20 European countries currently use the platform.

⁷⁶ The Riksbank highlighted this in a Riksbank Study published in June 2019. For more information, see H. Hallström and G. Söderberg (2019), What should Swedish securities settlement look like in future?, *Riksbank Studies*. Sveriges Riksbank.

⁷⁷ The term post-trade refers to those activities taking place after the actual transaction, in this case the flow of securities. This includes the settlement of the transaction and dividends.

⁷⁸ One important actor in this context is the Nordic Payments Council (NPC), which is an organisation that develops regulatory frameworks to contribute to the harmonisation of payments in the Nordic countries.

ARTICLE – Bankruptcies during the initial phase of the coronavirus pandemic

The economic consequences of the coronavirus pandemic have hit companies in Sweden hard and many filed for bankruptcy at the very start of the pandemic. Between March and June, about 3,000 companies filed for bankruptcy, which is nearly 20 per cent more than the average over the last five years for the same period. The Riksbank has studied a sample of these companies. A comparison with remaining companies shows that those that filed for bankruptcy were highly levered and were already struggling to pay their interest expenses in 2018. This article also shows that there is still about 40,000 companies with similar characteristics and highlights the risks to financial stability that this entails.

The coronavirus pandemic quickly changed the conditions for running a company in Sweden

The restrictions introduced to reduce the spread of infection and the resulting changes in behaviour among households and companies have had major effects on the economy. Both in Sweden and in other countries, many companies have encountered problems due to sharply reduced demand and to production problems.⁷⁹

In Sweden, many companies filed for restructuring or bankruptcy at the very start of the coronavirus pandemic.⁸⁰ The Riksbank has studied a sample of the companies that filed for restructuring or bankruptcy in the period March to June 2020.

Based on the 500,000 limited liability companies (Swedish: *aktiebolag*) that were active in December 2018, the Riksbank has studied a sample of companies that belong to the category non-financial companies and that submitted an annual report to the Swedish Companies Registration Office for the financial year of 2018. This means that we exclude financial companies such as banks and insurance firms, as well as companies that, for example, were founded in 2019 and filed for bankruptcy in the period March to June 2020.

⁷⁹ This article is based on C. Cella (2020), Bankruptcy at the time of COVID-19 – The Swedish experience, *Staff Memo*. Sveriges Riksbank.

⁸⁰ A company or its creditors can file for the company to enter into restructuring or bankruptcy. A district court decides whether companies are to enter into restructuring or bankruptcy. A restructuring takes place when the company has economic problems but has a possibility of surviving in the long run. The aim of the restructuring is for the company to be able to continue its operations. A bankruptcy takes place when the company cannot pay its debts, neither now nor in the future, and means that the company is wound up.

Of the companies in the sample, 1,700 filed for restructuring or bankruptcy in the period March to June 2020. Using their annual reports for 2018, the 1,700 companies' financial positions are compared with those of the remaining companies.⁸¹ The analysis treats all companies as independent, regardless of whether they belong to a corporate group.

Of the 1,700 companies, 166 companies filed for restructuring and 1,554 companies filed for bankruptcy (all hereinafter referred to as bankrupt companies). Together, these 1,700 bankrupt companies make up about 0.4 per cent of the companies in the sample.⁸² The bankrupt companies correspond to about 0.2 per cent of the total number of companies in Sweden.⁸³

In this article, we first show the bankrupt companies' regional distribution. We then present their financial situation prior to the coronavirus pandemic. This is followed by a review of the remaining companies and how problems in the corporate sector can have an effect on financial stability in the event of a prolonged crisis.

Bankruptcies have affected companies throughout Sweden

The bankrupt companies can be found across the entire country. In absolute terms, the regions around Stockholm, Göteborg and Malmö were hit hardest with just over 1,000 of the total 1,700 bankruptcies. In relative terms, all regions in Sweden have been affected, even if the regions of Västernorrland, Gävleborg, Västmanland, Örebro County, Kalmar and Blekinge have been hit the hardest (see Chart 30). In Västmanland, 0.9 per cent of companies filed for bankruptcy in the period, which was the highest proportion of bankrupt companies. The lowest proportion of bankrupt companies was measured in Gotland: 0.4 per cent. The difference between the proportion of bankrupt companies in the worst affected region and the least affected region is thus relatively small.

As regards how different sectors have been affected, the 1,700 bankrupt companies can be found in all sectors except energy supply, where no companies filed for bankruptcy (see Chart 31).⁸⁴ The chart also makes clear that a relatively large part of the bankruptcies were in the trade sector and other service sector. Overall, bankruptcies have affected companies in all regions of Sweden, and virtually all sectors have been affected. The fact that bankruptcies have been so widespread suggests that many of

⁸¹ Data from 2018 is the latest available from the database we use. Remaining companies are those in the same sector and size category as the bankrupt companies but that survived at least until June 2020.

⁸² Including all legal forms of companies, financial undertakings and companies that did not submit their annual report for 2018 to the Swedish Companies Registration Office, the number of bankruptcies over the period March to June 2020 would have amounted to about 3,000. This is about 20 per cent more than the average in the same period over the past five years. See Section 2.2 in this report for information on bankruptcies up to the end of September 2020.

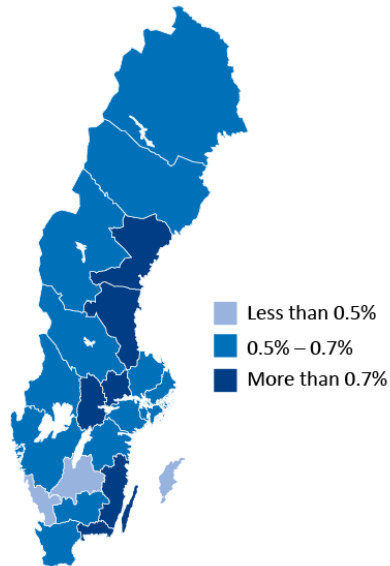
⁸³ Including all legal forms such as sole proprietorships and incorporated partnerships, there are 1,200,000 companies.

⁸⁴ Energy supply comprises the Swedish Standard Industrial Classification (SNI) category of Electricity, gas, steam and air conditioning supply. Bankruptcies may have occurred in this sector but were not included in our sample.

the companies would probably have encountered problems regardless of the coronavirus pandemic, although it may have speeded up the process.

Chart 30. Regional distribution of bankruptcies from March to June 2020

Per cent

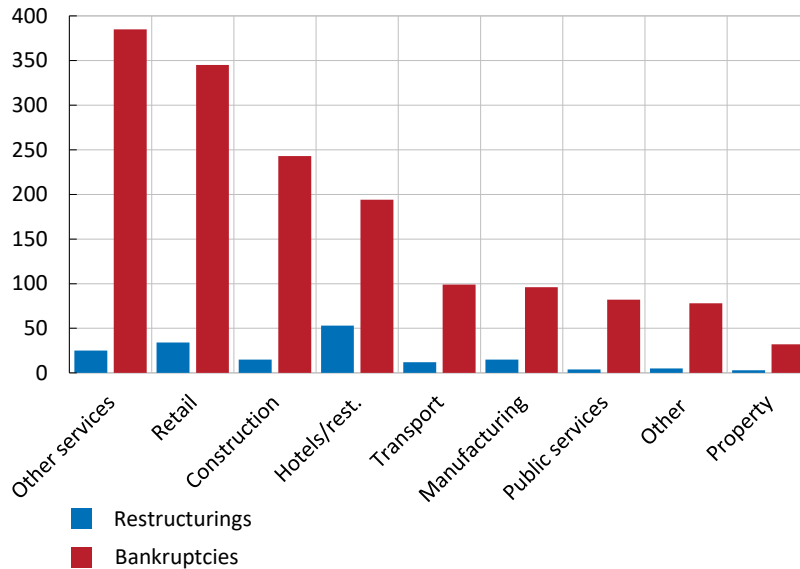


Note. Proportion of companies in the region filing for bankruptcy. The distribution of companies is based on addresses of head offices. The default rate is based on the 1,700 bankrupt companies, which is to say it corresponds to 0.4 per cent of the companies in the sample.

Source: Bisnode.

Chart 31. Bankruptcies and restructurings in various sectors over the period March to June 2020

Number

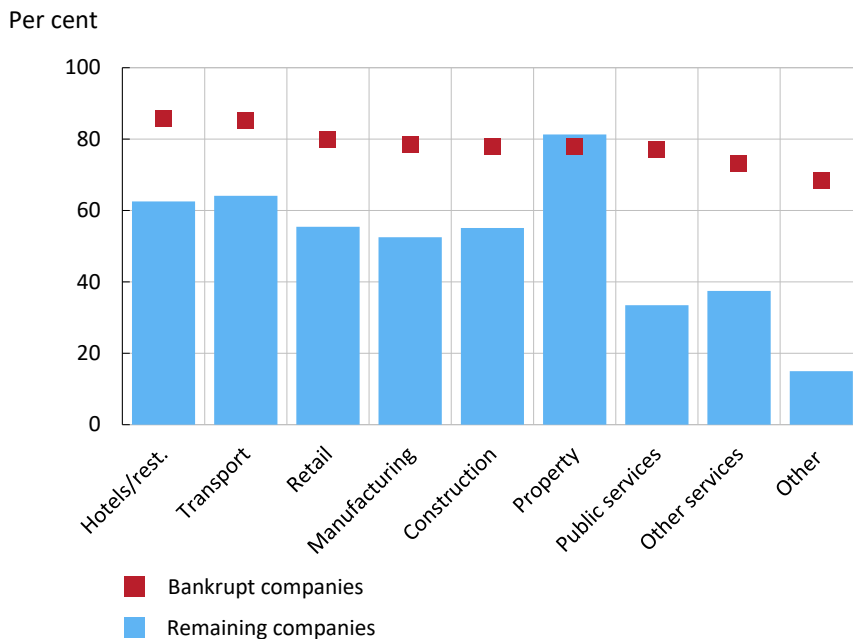


Note. The classification of companies is based on Swedish Standard Industrial Classification (SNI), but has been divided into nine sectors. Other services sector includes IT, corporate and technical services, among others. Other includes agriculture, mining and companies without SNI codes, among others. For more information on how companies have been classified, see C. Cella (2020), Bankruptcy at the time of COVID-19 – The Swedish experience, *Staff Memo*. Sveriges Riksbank.

Source: Bisnode.

Higher leverage and lower interest coverage ratios among bankrupt companies than among remaining companies

Overall, the bankrupt companies were more indebted than the remaining companies (see Chart 32). Among the bankrupt companies, the average leverage was 74 per cent and the median was 79 per cent. This can be compared with the remaining companies, where the average leverage was 48 per cent and the median was 46 per cent. A leverage of 50 per cent indicates that the company funds approximately half of its operations with loans and the other half with equity. All else being equal, a lower leverage implies lower exposure to risk and a better ability to fulfil financial commitments.

Chart 32. Leverage of bankrupt and remaining companies in 2018

Note. Medians. A company's leverage is defined as its debt divided by the sum of debt and equity. Debt includes the company's short and long-term liabilities (excluding the category Other long-term liabilities). For information on the key indicators and classification, see and C. Cella (2020), Bankruptcy at the time of COVID-19 – The Swedish experience, *Staff Memo*. Sveriges Riksbank.

Source: Bisnode.

Chart 32 illustrates how the bankrupt companies (red dots) had a higher leverage at the end of 2018 than the remaining companies (light blue bars) in the same sector. This applies to all sectors except the property sector, where leverage was higher among the remaining companies than the bankrupt companies. In the underlying data, we can see that large companies generally have higher leverage than small ones.⁸⁵ This may be due to large companies normally having greater bank commitments and being able to pledge better collateral for their loans, such as property, and thus being able to secure more attractive loan terms.⁸⁶

In addition to higher leverage, the bankrupt companies generally did not generate enough earnings to make interest payments on their loans. The median for the interest coverage ratio (ICR), which represents the company's ability to pay interest expenses by using their earnings, was -0.97 among the bankrupt companies. An ICR of 1 means that the company can pay its interest expenses using the earnings it generates. As the interest coverage ratio for the bankrupt company that forms the median amounts to about -1, this implies that its loss was as large as its interest expenses.

⁸⁵ In each sector, companies have been divided into four equally large size categories based on total assets: micro, small, medium-sized or large companies. The average company in the micro company category had assets of SEK 176,000. The corresponding figure in the large company category was SEK 210 million.

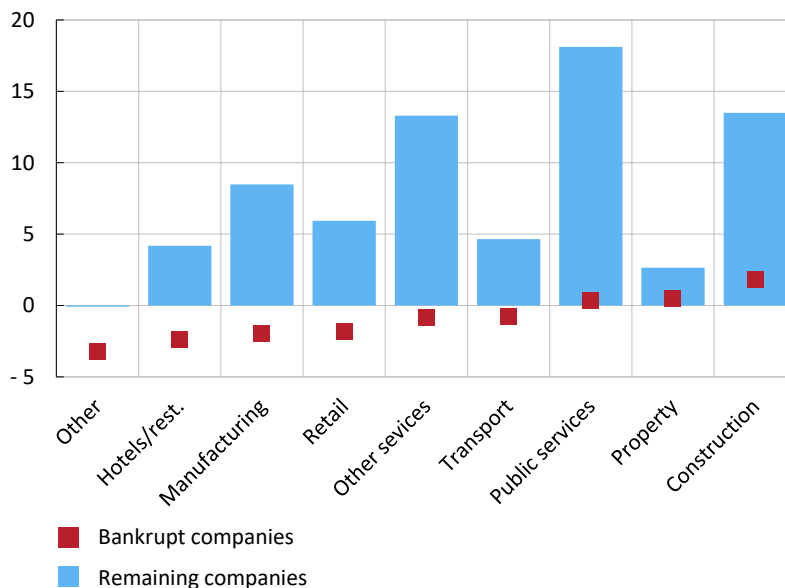
⁸⁶ Read more about how large companies differ from smaller companies as regards how they borrow in the article *Banks' lending capacity in light of the coronavirus pandemic* in this report.

When a company reports a loss, it means that it may need to receive financial support such as an increase in equity to meet its interest expenses. However, even if such additional funds to cover interest expenses may work over the short term, in the long term, the company will have to start to generate earnings or else it may be forced to shut down. For the remaining companies, the median interest coverage ratio is 5, meaning that the company generates earnings that are five times greater than the company's interest expenses.

Chart 33 shows that the bankrupt companies (red dots) overall had a lower interest coverage ratio than the remaining companies (light blue bars). In most sectors, the bankrupt companies had a negative interest coverage ratio, meaning that they reported a loss in 2018. However, bankrupt property and construction companies generally had a positive interest coverage ratio indicating that they reported a profit in 2018. While both bankrupt and remaining companies in the property sector showed a relatively low interest coverage ratio, there was a large difference between bankrupt and remaining companies active in the construction industry, where the remaining companies overall had significantly higher interest coverage ratios than the bankrupt companies. In the underlying data, bankrupt companies classed as micro companies in the hotel and restaurant sector and the construction and property sectors generally had a significantly worse interest coverage ratio than small and medium-sized companies in the same sector, as many of the micro companies reported a loss for the financial year of 2018.

Chart 33. Interest coverage ratios of bankrupt and remaining companies in 2018

Ratio



Note. Medians. Interest coverage ratio is defined as the company's operating profit/loss and financial income divided by its financial costs. For information on the breakdown and sectors, see Chart 31 and C. Cella (2020), Bankruptcy at the time of COVID-19 – The Swedish experience, *Staff Memo*. Sveriges Riksbank.

Source: Bisnode.

The companies in the sample that filed for bankruptcy in the period March to June 2020 had approximately the same liquidity in 2018 as the remaining companies. Liquidity is assessed based on the companies' quick ratio, which indicates their ability to pay their short-term liabilities, that is debt that falls due for payment within one year.⁸⁷ However, as liquidity reflects the company's short-term debt-servicing ability, it can change quickly. Given that the companies' liquidity situation is based on data from 2018, it is difficult to say anything about liquidity among the bankrupt and remaining companies in the period March to June 2020.

Overall, it can be noted that many of the companies filing for bankruptcy in March to June 2020 were already in a relatively weak position at the start of the coronavirus pandemic, judging by their financial position in 2018.

Signs of a return to normal bankruptcy levels

Between March and June, mostly micro, small and medium-sized companies filed for bankruptcy. Compared with remaining companies, bankrupt companies had generally existed for a shorter time period. Among the bankrupt companies there was, however, some variation concerning how long they had existed; those that filed for bankruptcy in March had existed for a longer time period than those that filed for bankruptcy in June. Furthermore, we observe that the number of bankruptcies in June was almost the same as in June of the previous year.

Using the Riksbank's credit database KRITA, which includes information from the companies' creditors, the probability of default calculated by the creditor for each company can be studied. Despite the lower number of firms that filed for bankruptcy during the end of the studied period, companies that filed for bankruptcy in May and June 2020 had a lower probability of default than those that filed for bankruptcy in early 2020.

Banks are exposed to companies with weak financial positions

Table 1 presents the group of remaining companies from the sample that, like many of the bankrupt companies, are categorised as highly levered. Remaining companies classed as highly levered are those belonging to the most levered 25 per cent in each sector and size category respectively.

The remaining highly levered companies are divided into various categories depending on their quick ratio and interest coverage ratio. The review is based on data from the companies' annual reports for 2018 and aims to show the proportion of companies that are highly levered, and have low quick ratios and interest coverage ratios, as

⁸⁷ The quick ratio is the ratio of current assets (minus inventories) to current liabilities.

well as how large a proportion of the employees they make up and how large a part of the bank loans they have taken.

About 33 per cent of the remaining companies are classified as highly levered.⁸⁸ This corresponds to about 150,000 companies. Of these, about 40,000, or the equivalent of 8 per cent of the total number of remaining companies, are classified as highly levered and have a low quick ratio and an interest coverage ratio of one or less (marked blue).⁸⁹ Considering that these companies may find it difficult to pay their interest expenses, it may be interesting to note, from the perspective of financial stability, that they make up 18 per cent (marked red) of the bank loans that the remaining companies in the sample have. This corresponds to SEK 340 billion, which can be seen in relation to banks' total outstanding corporate loans in Sweden of SEK 2,488 billion in September 2020.⁹⁰ These 40,000 companies can be found in all sectors, even if the retail sector has a slight predominance.

Table 1. Share of remaining companies classified as highly levered

Per cent

	Highly levered					
	Low quick ratio			High quick ratio		
	ICR<0	0≤ICR≤1	ICR>1	ICR<0	0≤ICR≤1	ICR>1
Percentage of total number of companies	7.0%	1.1%	18.7%	0.9%	0.2%	4.6%
Percentage of total number of employees	11.3%	1.0%	29.9%	0.5%	0.2%	4.9%
Percentage of total liability to MFI	14.5%	3.0%	14.9%	2.1%	0.8%	5.7%

Note. Share of total number of companies, total number of employees and total liabilities to MFI relates to all remaining companies in the sample of limited liability companies. Liabilities to MFI include both short-term and long-term liabilities. Short-term liabilities fall due for payment within 1 year. MFI include banks, mortgage institutions, financial institutions, municipal and corporate-financed institutions and monetary securities companies.

Source: Bisnode.

Assuming that the financial position has not changed to any great extent since 2018, Table 1 indicates that there is a large number of the remaining companies that have a relatively weak financial position, similar to many of the companies that entered bankruptcy in the period March to June 2020. Bankruptcies among these companies could lead to an increase in banks' credit losses.

⁸⁸ Even if we select the most levered 25 per cent in each sector and size category respectively, the total proportion of highly levered companies can exceed 25 per cent as there is a different number of companies in each category.

⁸⁹ Low and high quick ratio corresponds to the companies being below or above the median in each sector and size category.

⁹⁰ This SEK 2,488 billion refers to total lending from Monetary Financial Institutions (MFI) to non-financial companies. Source: Statistics Sweden. For more information on banks' lending during the coronavirus pandemic, see the article *Banks' lending capacity in the light of the coronavirus pandemic* in this report.

Many measures have been taken to help companies but more may be needed

This article has shown that the companies that filed for restructuring or bankruptcy in the period March to June 2020 already had a weak financial position before the crisis: many were highly indebted and had low interest coverage ratios. The article has also demonstrated that many companies with relatively weak financial positions remain and that bankruptcies among these companies may lead to increased credit losses. A smaller increase in the number of bankruptcies would not necessarily be a problem. However, if bankruptcies spread from sector to sector and increase to a great extent, it will increase the risks to financial stability.

Several measures have been taken to help companies get through the crisis. The Riksbank's measures have focused on keeping the level of interest rates low and supporting credit supply. The fiscal policy measures have aimed to support companies, both with grants such as short-term work allowance and rent support, as well as with different forms of loan such as tax forbearance and credit guarantees. These support measures have been of varying reach. Some have been earmarked for specific sectors, while others, such as temporary cuts to employers' social security contributions, have been more general.

It is important that the measures taken are not phased out prematurely. If the crisis now becomes deeper or more prolonged, even more fiscal policy support may also be needed, partly through general measures and partly measures targeting particularly vulnerable sectors. The Riksbank, for its part, is ready to contribute the liquidity necessary to support credit supply and safeguard financial stability.

ARTICLE – Banks' lending capacity in light of the coronavirus pandemic

Bankruptcies in the corporate sector and banks' credit losses have increased as a result of the coronavirus pandemic, but so far to a relatively minor extent. However, if the pandemic becomes more serious or more prolonged, it may impair banks' lending capacity. This article reviews the factors that affect banks' lending capacity, by focusing on lending to Swedish non-financial companies, and then describes developments in banks' lending during the year. Finally, we discuss the conditions needed for banks to be able to provide new loans going forward.

One important conclusion is that banks' lending capacity during the coronavirus pandemic has been good, but all companies have not had the same access to loans. There is also uncertainty about expected credit losses going forward, and about banks' use of capital buffers. The continuing ability of banks to supply credit to the system is a prerequisite for financial stability.

Several factors affect banks' lending capacity

The ability of banks to issue loans, and the interest rates they offer, are determined by several different factors. Banks need a certain level of capital and liquidity to be able to lend. These levels are affected by the bank's financial results, the size of dividends paid to shareholders and its access to funding, as well as by various regulatory requirements.

The aim of the requirements imposed by Finansinspektionen (FI), which are based on European regulations and concern the level of capital and liquidity a bank must hold, is to increase the bank's capacity to absorb any losses that may arise in the event of financial uncertainty, while they also encourage the bank to uphold its lending.⁹¹ Among others, they relate to capital adequacy, leverage ratio, liquidity buffers (Liquidity Coverage Ratio, LCR) and degree of stable funding (Net Stable Funding Ratio, NSFR). In somewhat simplified terms, capital requirements are divided into minimum requirements that the bank must fulfil, and buffer requirements that the bank may contravene under certain circumstances. Furthermore, banks often hold more capital than is needed to fulfil the requirements, referred to as a management buffer.⁹² A

⁹¹ In the EU, the Capital Requirements Regulation and the Capital Adequacy Directive form the basis of the capital and liquidity requirements.

⁹² The three major Swedish banks, Handelsbanken, SEB and Swedbank, have explicit internal financial targets for the size of the management buffer. The target can be expressed as a specific percentage or as a target interval and is normally between one and three percentage points above the requirement.

high management buffer implies that the bank could receive a higher credit rating and lower funding costs, and that investments can be made without the need to firstly seek external capital. This makes banks generally reluctant to reduce their management buffer and approach the limit for the set requirements.

If a bank's financial situation deteriorates so that it approaches the limit for the regulatory requirements, the bank's incentive to uphold and increase its lending may decrease, especially regarding loans with high credit risk that entails stricter requirements on capital adequacy and that increase the risk of credit losses⁹³. However, FI has communicated that at this stage of the pandemic, the capital and liquidity buffers specified in the regulations may be used. There may, however, be stigma attached to the use of such buffers, based on market expectations of the bank's resilience.

Good capacity among banks to provide loans

Since the beginning of the coronavirus pandemic, the conditions for the major Swedish banks to provide loans on the Swedish market have been good, despite the financial turmoil in the spring. One important explanation is the various authority measures that have supported credit supply, such as the provision of large amounts of liquidity by the Riksbank and other central banks, in the form of both loans and asset purchases.⁹⁴ This section describes how bank lending has developed during the year.

Increased lending volumes to large companies

Banks in Sweden have increased their lending to companies during the pandemic.⁹⁵ In September, outstanding loans to non-financial companies were SEK 2,488 billion, which is 2.1 per cent more than in February.⁹⁶ In the spring, banks primarily increased lending to large companies. The outstanding loans to large companies continued to increase until the end of May and then started to decrease (see Chart 34). There may be several explanations for this.

Large companies normally have greater bank commitments and can often pledge better collateral for their loans, primarily in the form of property, than smaller companies. This reduces the credit risk for the bank. Furthermore, large state- or municipality-owned companies have more funding opportunities if the public sector can be seen as a guarantor of the loan. In addition, as a preventive measure, several large companies took the opportunity to use their unutilised credit facilities based on terms negotiated before the crisis. One of the explanations for the decrease in outstanding loans may be that companies have now begun repaying these loans. In addition, the corporate debt market is now working again, providing many large companies with an

⁹³ Here, credit losses refer to both direct credit losses and provisions for future credit losses.

⁹⁴ See, for example, *Financial Stability Report*, May 2020. Sveriges Riksbank.

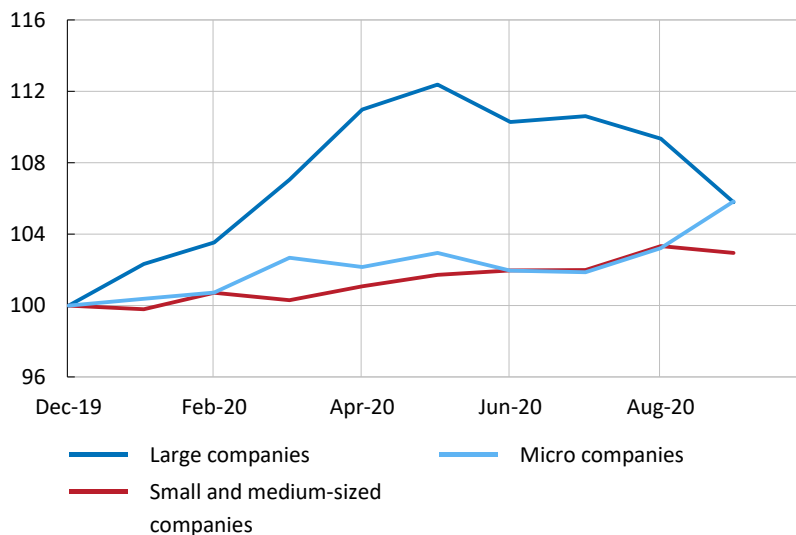
⁹⁵ This article focuses on Swedish non-financial companies in various company size categories in accordance with European Commission recommendation (2003/361/EC), in which the combination of employees, turnover and assets determine the size classification.

⁹⁶ Refers to total lending from Monetary Financial Institutions (MFI) to non-financial companies. Source: Statistics Sweden.

alternative to bank loans (see Section 2.2 “Some recovery in the Swedish corporate sector but uncertainty remains”).

Chart 34. Bank loans by company size

Index, December 2019 = 100



Note. Loans in all currencies. Outstanding loans (volume) to Swedish non-financial companies. Size breakdown in accordance with European Commission Recommendation (2003/361/EC). Loans to housing cooperatives have been excluded.

Sources: Statistics Sweden and the Riksbank.

Lending volumes to smaller companies have increased slightly

Many smaller companies encountered financial problems at the beginning of the pandemic and experienced difficulties funding their operations.⁹⁷ Lending by the banks to these companies was, however, relatively unchanged during the initial phase of the pandemic but has now increased slightly in recent months, primarily to micro companies (see Chart 34). It is difficult to know whether initially restrictive lending to smaller companies was mainly due to changes in supply or demand, but there are a few different hypotheses. One reason may be the decision by banks, when the number of loan applications increased, to prioritise lending to large and existing customers with lower credit risk and to restrict loans to smaller and new customers with higher credit risk or poorer collateral. Several of the companies that experienced problems may be companies that did not have loans previously and the incentive of banks to take on new corporate customers in times of turmoil can be limited. In various surveys, bank executives have also said that corporate lending has been stricter and that the proportion of rejected loan applications increased during the spring, from 13 per cent in March to 20 per cent in June, but then fell again to 15 per cent in September.⁹⁸

⁹⁷ See, for example, *Economic Tendency Survey*, April 2020. National Institute of Economic Research.

⁹⁸ See, for example, *Låneindikatorn (Lending Indicator)*, June and September 2020. Almi.

To make it easier for smaller companies to access loans, the state can step in and guarantee some of the bank loans issued to these companies. Such credit guarantees have been launched by the Swedish National Debt Office and are an important complement to the Riksbank's measures aimed at keeping interest rates low in order to support credit supply in general.⁹⁹ The effect of such guarantee programmes depends, however, on their terms and conditions.¹⁰⁰ Many banks say that, as long as the state does not guarantee 100 per cent of the loan amount, they need to continue their credit risk assessment of companies, according to existing rules, as they are still taking on risk by granting the loan. This may imply that some companies are unable to borrow regardless of whether the loan has a state guarantee or not as long as the guarantee does not cover 100 per cent of the loan.

At the same time, smaller companies may have been unwilling to take bank loans during the coronavirus pandemic. One reason may be that companies in vulnerable industries have not considered increased borrowing as a way of saving the company, but rather as a greater burden associated with greater risk.¹⁰¹ Smaller companies may also have chosen to make use of measures from authorities that do not require collateral, in order to alleviate their economic difficulties, such as forbearance on various tax payments, instead of taking bank loans.¹⁰² The demand for credit may therefore increase when these measures end.

Banks' lending rates to companies rose at the start of the pandemic, but have now fallen back again

As Chart 35 illustrates, smaller companies normally pay a higher interest rate for bank loans than large companies. This is probably because lending to smaller companies generally involves a higher financial risk and because the bank's fixed costs are spread over loans that generally reach lower amounts. When market turmoil increased at the beginning of the spring, banks' borrowing costs rose, which increased lending rates to companies of all sizes. Once various action programmes to stimulate markets had been implemented and reduced market turmoil, lending rates fell again. In September, interest rates for companies of all sizes were slightly lower than in February.

Chart 36 illustrates the spread in interest rate levels for different sizes of company in the form of a box chart, where the length of the box shows the rate spread. Large companies are offered similar interest rate levels (short box) while the interest rates vary more among smaller companies (long box). The rate spread has been relatively constant in comparison to February, May and September, indicating that banks' pricing models have not changed significantly.

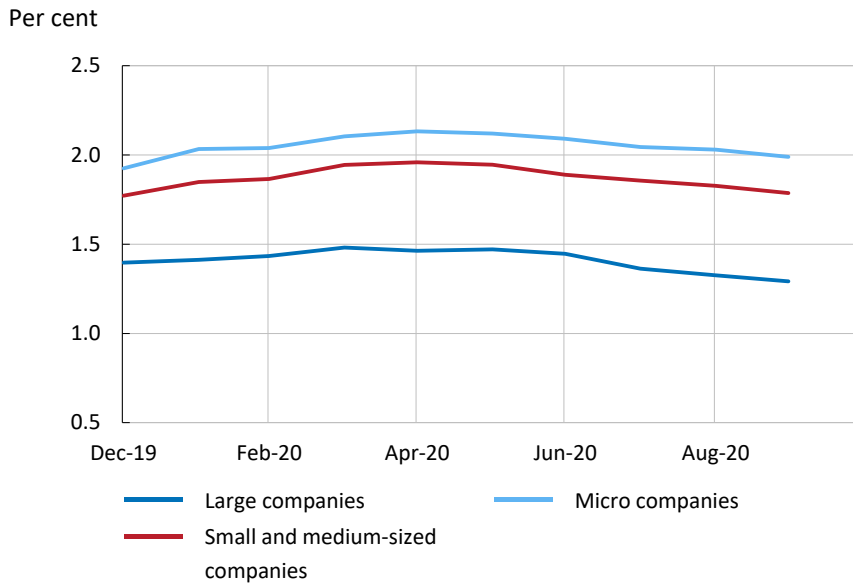
⁹⁹ See *Monetary Policy Report*, September 2020. Sveriges Riksbank.

¹⁰⁰ See information on terms and conditions, as well as approved volumes, on the Swedish National Debt Office website (www.rikskgalden.se).

¹⁰¹ See also E. Frohm, J. Grip, D. Hansson and S. Wollert (2020), Two-tier credit developments during the corona pandemic, *Economic Commentaries* no. 6. Sveriges Riksbank.

¹⁰² By 28 September 2020, according to information from the Swedish Tax Agency, 70 per cent of all tax forbearance applications had been made by small and micro companies. In total, the approved forbearance amount is about SEK 40 billion and small and micro companies make up almost a third of this amount. Tax forbearance is limited to 12 months from the decision date.

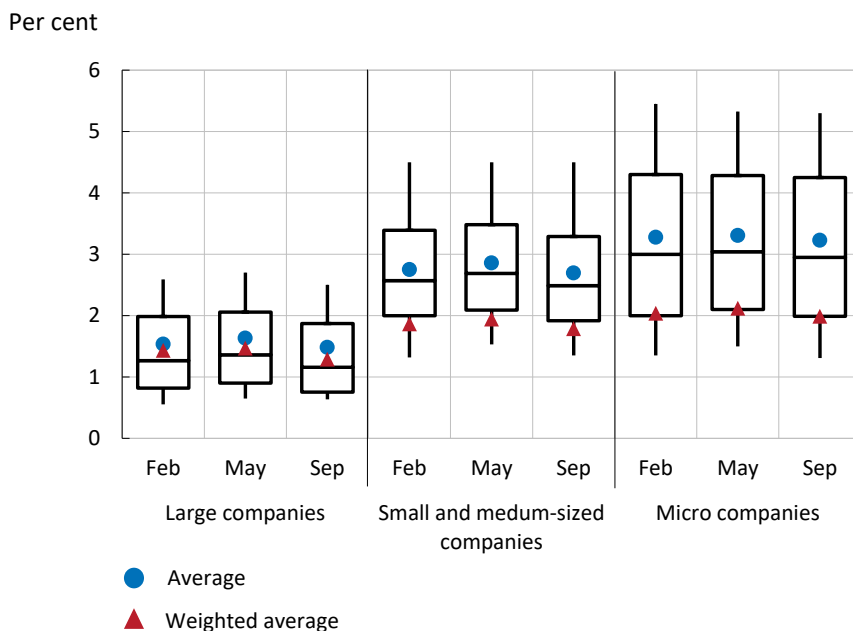
Chart 35. Interest rates on bank loans by company size



Note. Loans in all currencies. Outstanding loans to Swedish non-financial companies. The interest rate refers to the volume-weighted average. Size breakdown in accordance with European Commission Recommendation (2003/361/EC). Loans to housing cooperatives have been excluded.

Source: Statistics Sweden.

Chart 36. Interest rate spread by company size for bank loans of at least SEK 25,000



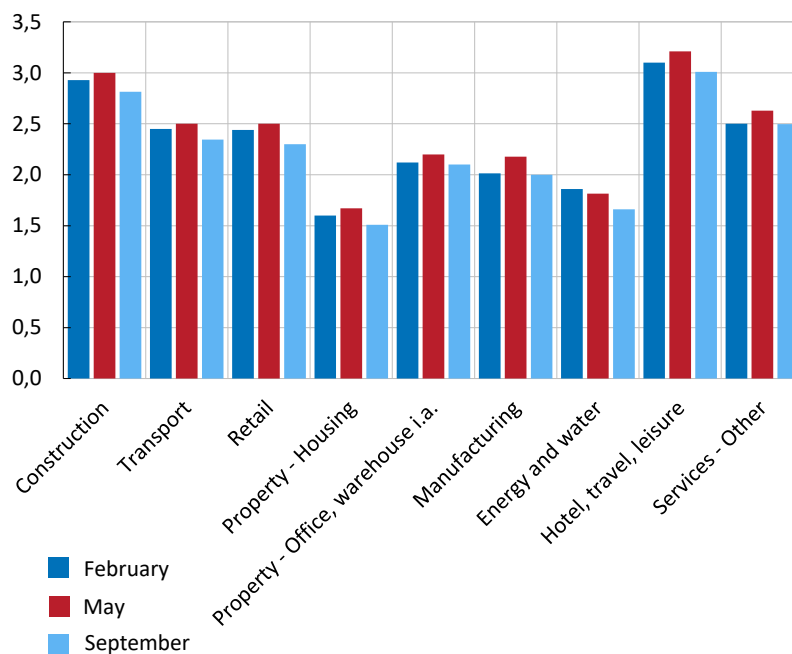
Note. Loans in all currencies. Outstanding loans of at least SEK 25,000 to Swedish non-financial companies. The line in the box represents the median, the upper part is the (75) quartile and the lower part is the (25) quartile. The vertical lines indicate the 10th and 90th percentiles respectively. The minimum loan amount limit of SEK 25,000 is set because many smaller loans are short-term loans, like overdraft facilities and credit card loans, which can have a zero interest rate for a period. Size breakdown in accordance with European Commission Recommendation (2003/361/EC). Loans to housing cooperatives have been excluded.

Source: Statistics Sweden.

The lending rates (median) for loans of at least SEK 25,000 to companies in different sectors in February, May and September are illustrated in Chart 37. The chart shows that, by September, the interest rate, after a general increase during the most turbulent months of the spring, was lower in all sectors than in February. In September, interest rates for *Property - Offices, warehouse, i.a.*, *Manufacturing*, and *Services - Other* were on levels just below February's levels, while other sectors had fallen to a greater extent.¹⁰³ Companies in *Hotel, travel, leisure* have had to pay the highest interest rate during the period and *Property - Housing* the lowest interest rate. Companies in *Manufacturing, Hotel, travel, leisure* and *Services - Others* had the highest interest rate increases from February to May (between 0.11 and 0.17 percentage points).

Chart 37. Interest rates by sector on bank loans of at least SEK 25,000, median

Per cent



Note. Loans in all currencies. Outstanding loans to Swedish non-financial companies. The minimum median loan amount limit of SEK 25,000 is set because many smaller loans are short-term loans like overdraft facilities and credit card loans, which can have a zero interest rate for a period. Loans to housing cooperatives have been excluded.

Source: Statistics Sweden.

¹⁰³ The fact that interest rates for companies in the *Property - Office, warehouse i.a.* sector did not decrease to any great degree could be explained by FI communicating the intention to introduce a special risk weight floor for lending with collateral in the commercial property sector, which will increase the banks' capital requirements and thus also their capital costs for such lending. The aim of the risk weight floor is to ensure that banks with substantial exposure to commercial property have the resilience to manage a potentially large decline in property prices, which is of considerable significance for financial stability.

Increased credit losses could affect credit supply

Bank lending has increased since the outbreak of the pandemic, even though the loans initially mostly benefited large companies. Lending rates rose initially, as a result of the turbulence on the market, but they have now fallen back again. The lending capacity of banks has been good and there have not been any clear signs of a credit crunch. The next sections describe the liquidity and capital situation of banks and look at whether future credit losses may be significant for banks' lending capacity if the macroeconomic situation deteriorates.

Measures and recommendations from authorities support banks' lending capacity

Due to the coronavirus pandemic, Swedish authorities have introduced measures and recommendations to facilitate corporate lending by banks.¹⁰⁴ Certain regulatory requirements have been temporarily eased and support measures have been implemented to further stimulate credit supply. Alongside programmes from the Swedish National Debt Office and the Riksbank, FI has reduced the countercyclical capital buffer rate requirement from 2.5 to zero per cent. According to FI, the reduction will release capital for the eleven largest Swedish institutions corresponding to about SEK 900 billion in increased lending potential.¹⁰⁵

Discussions have also been conducted, both in Sweden and internationally, on whether banks should refrain from paying dividends in light of the coronavirus pandemic as dividend capital could instead be used for lending.¹⁰⁶ The aim is to ensure that banks retain a continued high level of resilience to credit losses and the capacity to maintain credit supply. Several banks have announced that they are not planning to pay dividends generated in 2019 to shareholders in 2020.¹⁰⁷

Regulatory requirements do not currently constitute a limitation for the major Swedish banks

Chapter 2 showed that the major Swedish banks have good access to liquidity and that they meet the levels in the regulatory requirements. Neither is it likely that, given the Riksbank's support measures, a shortage of liquidity will reduce banks' lending capacity in the near term. In addition, the Riksbank is ready to implement further measures should renewed market turbulence arise. This article will therefore continue to focus on the capital situation for banks based on their Common Equity Tier 1 (CET 1) capital ratios and leverage ratios.¹⁰⁸

¹⁰⁴ See, for example, *Financial Stability Report*, May 2020. Sveriges Riksbank.

¹⁰⁵ See *Ändrade föreskrifter på grund av sänkning av kontryckligt buffertvärde (Amended regulations due to reduction in countercyclical buffer rate)*, March 2020. Finansinspektionen.

¹⁰⁶ See, for instance, *Continued grounds for suspension of dividend payments for the rest of the year*, September 2020. Finansinspektionen, and the *ECB extends recommendation not to pay dividends until January 2021 and clarifies timeline to restore buffers*, July 2020. European Central Bank.

¹⁰⁷ The three major Swedish banks' planned dividends for 2019 totalled SEK 34 billion.

¹⁰⁸ *The Common Equity Tier 1 (CET 1)* ratio is the ratio between the bank's CET 1 capital and risk-weighted assets. *Leverage ratio* is the ratio between the bank's Tier 1 capital and total exposures, both on and off the

As illustrated by Table 2, the requirement for CET 1 capital for the three major Swedish banks amounts to SEK 290 billion for the second quarter of 2020, consisting of a minimum requirement of SEK 171 billion and a buffer requirement of SEK 119 billion. In addition to this, they also have a total management buffer of SEK 87 billion. Total CET 1 capital among the three major banks is therefore SEK 378 billion.

The Basel Committee recommends that banks’ leverage ratios should be at least three per cent. As a result of the European Capital Requirements Regulation, this recommendation will become a requirement in Sweden as from next year, via the Banking Package.¹⁰⁹ The three major Swedish banks normally maintain a leverage ratio in the interval of four to five per cent. Table 2 shows that the banks’ total Tier 1 capital needs to be at least SEK 289 billion to reach a leverage ratio of three per cent with regard to the second quarter of 2020. In addition to this, the banks have a management buffer of SEK 128 billion. Total Tier 1 capital for the three major banks is SEK 417 billion.

Table 2. Existing capital, requirement for capital and management buffers for the three major Swedish banks

SEK billion and per cent

CET 1 capital	Bn	%	Tier 1 capital	Bn	%
Capital to fulfil CET 1 ratio requirements	290	13.6%	Capital to fulfil a 3-per-cent leverage ratio	289	3.0%
<i>Of which</i>	<i>171</i>	<i>8.0%</i>			
<i>Minimum requirement and Pillar 2 requirement¹¹⁰</i>					
<i>Of which</i>	<i>119</i>	<i>5.6%</i>			
<i>Buffer requirement</i>					
Management buffer	87	4.1%	Management buffer	128	1.4%
Total CET 1 capital	378	17.6%	Total Tier 1 capital	417	4.4%

Note. Refers to total CET 1 capital and average percentage of risk-weighted assets and total Tier 1 capital and average percentage of the total exposure amount for the three major Swedish banks for quarter 2, 2020. Figures in the table have been rounded off.

Sources: Banks’ quarterly reports, quarter 2, 2020, FI and the Riksbank.

Overall, the major Swedish banks have capital levels that exceed not just the regulatory requirements but also their own internal targets for management buffers. Even though the banks probably wish to keep a distance to the requirements, it is the Riksbank’s assessment that the requirements do not currently limit banks’ future lending capacity. Even if the new risk-weight floor for commercial properties communicated by FI is considered, this picture does not change.¹¹¹

bank’s balance sheet, without risk-weighting different assets. The concepts of *Common Equity Tier 1* and *Tier 1 capital* are explained in more detail in the glossary.

¹⁰⁹ This applies for Swedish banks as from 28 June 2021. See also *Financial Stability Report*, May 2019. Sveriges Riksbank.

¹¹⁰ Pillar 2 is a requirement on individual banks and includes rules that guide banks’ internal capital assessments and FI’s oversight and assessment process.

¹¹¹ According to FI’s calculations, the capital requirement for the three major Swedish banks will be raised by about SEK 5 billion per bank due to the communicated new risk-weight floor for commercial properties.

Banks should be ready to use the buffers to maintain credit supply

Lessons from previous economic crises have illustrated the importance of banks having capital and liquidity buffers. The buffers built up by banks over the last decade, due in part to higher regulatory requirements from authorities, have strengthened banks' position during the coronavirus pandemic. The pandemic shows how quickly and unexpectedly the economic situation can change, and how important it is for the financial system to have good resilience to shocks. Banks need to do what they can to maintain credit supply and contribute to an economic recovery in the society. They may thus need to use their capital and liquidity buffers. The Riksbank also considers that the banks should refrain from paying dividends to shareholders until further notice.

In light of the coronavirus pandemic, credit losses have increased but are still at relatively low levels. It is difficult, however, to know the extent to which the major Swedish banks wish to and can satisfy a future increase in demand for credit if credit losses rise and banks' capital and buffers decrease as a result. The Riksbank's stress tests illustrate that credit losses risk increasing if, for example, housing prices fall sharply in a worse future macroeconomic scenario. In addition, credit losses can arise with a significant delay among banks, as some measures and accounting rules (see fact box "IFRS 9 and measures in light of the coronavirus pandemic") can increase the amount of time it takes for a loan associated with payment difficulties to be classified as a non-performing loan. This means that certain risks associated with credit losses may be hidden before they materialise, which can lead to problems for banks in the longer term.

If the crisis now deepens and becomes more prolonged, further measures may be needed to support credit supply and safeguard financial stability. When the economic situation permits, the resilience of the financial system will need to be reinforced again. If banks have used parts of their capital and liquidity buffers, they will need to gradually build up sufficient capital and liquidity again after the crisis, in case they are needed in future crises.

Glossary

Capital requirements: Rules for the minimum amount of loss-absorbing capital a financial undertaking must hold to cover its risks.

CCP, central counterparty: An agent that acts as intermediary in financial transactions and goes in as buyer to all sellers and seller to all buyers. This means that the original parties in a transaction have a claim on, or debt to, the central counterparty instead of each other.

CDS, Credit Default Swap: Contract between participants on the credit market aimed at transferring the credit risk in an underlying asset from one participant to another. The annual cost in basis points of buying such a contract is called the CDS premium. CDS premiums are often used as an indication of banks' costs for unsecured funding.

Climate-related risks: Risks associated with not only the effects of global warming but also of the transition itself.

Commercial paper: Securities issued by non-financial companies in order to borrow money. The maturity of these instruments is usually shorter than one year.

Commercial property: Commercial property is real estate owned in order to generate income via letting.

Common Equity Tier 1 (CET 1) capital: Tier 1 capital with a deduction for capital contributions and reserves that may be included in the capital base as Tier 1 capital in accordance with the Capital Adequacy Directive.

Common Equity Tier 1 (CET 1) capital ratio: Common Equity Tier 1 in relation to risk-weighted assets.

Corporate bond: Securities issued by non-financial companies in order to borrow money. The maturity is mostly longer than one year.

Countercyclical capital buffer: A time-varying capital requirement aimed at protecting the banking sector from future losses and helping to reduce procyclicality in credit growth by softening excessively volatile fluctuations in the credit market over time.

Covered bond: A bond whose holder has a special benefit right in the event of a bankruptcy. Covered bonds normally entail a lower credit risk than unsecured bonds, which means that the borrowing costs are lower.

Credit facility: An agreed borrowing limit with credit up to a specific amount, for which the borrowing company normally pays a fee.

Credit guarantee: A guarantee commitment by, for example, the state to guarantee repayment of a loan amount.

Credit loss: Loss made by credit institutions and banks when borrowers cannot pay interest or amortisation on their loans.

Credit risk: The risk of a borrower failing to meet commitments.

Currency swap: An agreement to buy or sell a currency at the daily rate and then sell or buy back the same currency on a later date at a pre-determined rate.

Debt-to-income ratio: Total household debt in relation to disposable income.

Disposable income: A person's or household's total income less taxes and charges.

Equity: Item in a company's balance sheet showing the difference between assets and liabilities, including, for example, capital provided by owners, retained profits and reserves.

Interbank rate: The interest rate on unsecured loans that the banks offer other banks. STIBOR (Stockholm Interbank Offered Rate) is usually used as a measure of the Swedish interbank rate. STIBOR is used as a reference for rate-setting or pricing of derivative contracts.

Intraday-margin call: Intraday-margin call (IDMC) is when a participant has to provide further collateral during the course of a trading day to cover its risk exposure. This happens when the risk in a participant's portfolio exceeds a predetermined level.

LCR, Liquidity Coverage Ratio Liquidity measurement defined by the Basel Committee that measures a bank's ability to deal with a stressed net cash outflow for 30 days. In simple terms, an LCR of 100 per cent means that a bank's liquidity reserves are adequate to enable the bank to manage an unexpected liquidity outflow for 30 days.

Leverage ratio: A measure that specifies the bank's Tier 1 capital in relation to its total assets and off-balance-sheet commitments. The measure is used as a complement to the risk-based capital adequacy requirements.

Liquidity: Measure of the ability of a company or organisation to meet its payment obligations in the short term.

Liquidity buffer: Funds an institution holds to ensure its short-term debt-servicing ability.

Liquidity risk: The risk of not being able to meet payment commitments due to a lack of liquidity.

MREL, Minimum Requirement for own funds and Eligible Liabilities: A regulatory framework aimed at ensuring that banks and institutions have a sufficiently large share of capital and bail-in-able liabilities that can be written down and converted into capital if they are affected by a crisis.

NSFR, Net Stable Funding Ratio or structural liquidity ratio: Measure of how much stable funding a bank has in relation to its illiquid assets.

Orderly Wind Down (OWD) ratio: The OWD ratio measures a company's financial conditions to continue operating in a situation with no income, based on historical costs. It is calculated as the ratio between a company's liquid net assets and average six-monthly costs (operational costs including interest) for the past 3 years. An OWD ratio of 1 means that operations can continue for 6 months without income.

Risk premium: The additional return an investor requires as compensation for an additional risk.

Risk weight: In simplified terms, to calculate a bank's risk-weighted assets, the amount lent is multiplied by a risk weight. The risk weight is determined on the basis of how likely it is that the borrower will be unable to fulfil its loan obligations and thus

varies from borrower to borrower – a high risk weight implies a greater risk than a low risk weight.

Risk-weighted exposures or risk-weighted assets: Assets on the balance sheet and off-balance sheet obligations valued in terms of credit, market and operational risk in accordance with the capital adequacy regulations.

Solvency: Financial measure of a company's ability to fulfil its commitments. Also a measure of an insurance company's financial position that gauges the size of the companies' assets in relation to their debts, which mainly consist of their total commitments.

Systemically important: An agent, market or part of the financial infrastructure is regarded as being systemically important if problems that arise there could lead to shocks in the financial system that would result in potentially large costs to society.

TIBER-SE: The Swedish adaptation of the European Central Bank's TIBER-EU framework. The framework enables the standardised testing of resilience to cyber risks among critical participants in the financial system.

Tier 1 Equity: Equity less proposed dividends, deferred tax assets and intangible assets, such as goodwill. Tier 1 Equity may also include some types of subordinated loan.



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