



SWEDEN

FINANCIAL SECTOR ASSESSMENT PROGRAM

TECHNICAL NOTE MACROPRUDENTIAL POLICY

This Technical Note on Macprudential Policy for the Sweden FSAP was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on March 21, 2023.

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MACROPRUDENTIAL POLICY

Prepared By
**Monetary and Capital Markets
Department**

This Technical Note was prepared by Rhiannon Sowerbutts, short-term consultant, in the context of the Financial Sector Assessment Program in Sweden, led by Tommaso Mancini-Griffoli. It contains technical analysis and detailed information underpinning the FSAP's findings and recommendations. Further information on the FSAP can be found at

<http://www.imf.org/external/np/fsap/fssa.aspx>

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Glossary

BCBS	Basel Committee on the Banking System
BCP	Basel Core Principles for Effective Banking Supervision
DSR	Debt Service Ratio
CRE	Commercial Real Estate
CCyB	Countercyclical Capital Buffer
CSDB	Centralized Securities Database
ECB	European Central Bank
ESRB	European Systemic Risk Board
EU	European Union
FI	Finansinspektionen
FSAP	Financial Sector Assessment Program
FSR	Financial Stability Report
FSC	Financial Stability Council
GFC	2007–08 Global Financial Crisis
IMF	International Monetary Fund
IRB	Internal Ratings-Based Approach
LTI	Loan To Income
LTV	Loan To Value
MCM	Monetary and Capital Markets Department, IMF
METR	Marginal Effective Tax Rate
MoF	Ministry of Finance
NBFM	Nordic-Baltic Macroprudential Forum
NBSG	Nordic-Baltic Stability Group
NDO	National Debt Office
OECD	Organisation for Economic Co-Operation and Development
QE	Quantitative Easing
RB	Riksbank
SEK	Swedish krona
SRB	Systemic Risk Buffer
TN	Technical Note

EXECUTIVE SUMMARY

Institutional Setup

Since the previous FSAP macroprudential policy in Sweden has advanced considerably. The mandate for FI is now well established, FI has increased risk weights on commercial real estate, tightened amortization requirements for residential real estate and increased several capital buffers – including changing the CCyB policy to set a positive neutral rate of 2%. During the pandemic many of these requirements were relaxed but have now been re-established as the economy recovers.

The increase in market-based finance challenges macroprudential policy. Tools are not yet well developed for borrower-based measures beyond those applying to lending to households, and many market based finance participants are outside national regulatory perimeters. Moreover, interlinkages and spillovers between different parts of the financial system mean that the objectives of one authority can be affected by the policies of another—for instance excessive household indebtedness complicates monetary policy tradeoffs.

The Financial Stability Council (FSC) is a platform to discuss these interlinkages and spillovers, as well as risks to financial stability, but is not a decision-making body with responsibility for the entire financial system. Responsibility for macroprudential policy is concentrated in Finansinspektionen (FI), with the Riksbank taking an important monitoring role. The FSC is a useful discussion forum helping to counter the inaction bias.

The authorities should make more use of “soft power” and joint communication, especially when risks become more systemic, as with market-based finance. A recent example is the joint article by the heads of three authorities to encourage firms to issue corporate bonds in line with a proposed benchmark standard. Communication is a powerful macroprudential policy tool and the FSC members should strategically use this power individually and jointly. Communication can often be the only available tool when risks are outside of the regulatory perimeter, but it can also be used to complement existing or newly introduced measures. Joint communication can also make it harder to be captured by short-term interests or lobbying particular special-interest groups, whether this is financial sector or political lobbying.

Systemic Risk Monitoring

There are still data gaps for almost all sectors. Although the collection of micro level data has increased and improved for households and CRE, lack of household liquid asset data means that it is extremely difficult for authorities to examine the level of imbalances posed by high levels of household debt and calibrate macroprudential tools optimally. A new proposed data collection will lead to substantial improvements here, but delivery is not expected for a few years.

FI and the Riksbank need to better model tail risk, spillovers, and interconnectedness. As the financial system becomes increasingly complex and interlinked with the risk of market-based finance the need for these models will increase. They are challenging and new areas to model—for example

technology for modelling tail risk measures such as GDP-at-Risk is evolving at a fast rate and modelling interconnectedness in financial markets requires the ability to work with extremely large datasets. In 2018, FI was commissioned to develop and present methods for identifying and evaluating macroeconomic and financial stability risks and for evaluating macroprudential policy. But it has not yet been able to build and sufficiently develop these models. There is a need for additional resources and technical expertise to develop these kinds of models. Modelling capacity at the Riksbank has been decreased slightly with the dissolution of the dedicated ‘Applied modelling’ division.

Key Systemic Risks: Household Indebtedness and CRE

High levels of household indebtedness create an imbalance of risks that complicates policymaking. While most households should still be able to pay their mortgage even after a substantial increase in interest rates, they will likely cut back substantially on consumption. This increases the potency of monetary policy, but also complicates it when there is a trade-off between inflation and output stabilization, such as following a strong and broad-based cost-push shock, and if inflation expectations become de-anchored. In this environment and as a small open economy, Sweden will feel pressure to increase its policy rate to levels commensurate with other advanced economies, so that a depreciation of the krona does not fuel inflation. Moreover, monetary policy can have stronger distributional effects given the very high debt of some households, and thus run into political opposition. A large or rapid increase in interest rates could lead to a considerable fall in disposable income for many borrowers— particularly those with an LTI above 3—leading to a slowdown in the economy and potentially impairments in the corporate sector. This can exacerbate any existing slowdown as well as impact house prices – which could affect the covered bond market and other sources of banks’ financing – leading to a further tightening in credit conditions and economic slowdown. Highly indebted households would suffer most. Moreover, calibrating monetary policy in such an environment is more difficult as demand is both highly sensitive and non-linear due to the tail of indebted households.

FI has a remit to redress financial imbalances that can affect the macroeconomy. This includes a remit to address things like high debts and high risk-taking among households and non-financial companies, which exacerbate fluctuations in the real economy, or which can threaten financial stability by leading to spillovers to other sectors and increase systemic risk. Most macroprudential regulators have a remit to address systemic risk—and generally indebtedness is considered a systemic/financial stability risk because the exacerbation of the downturn leads to higher impairments for banks which can threaten their solvency position. FI is unusual in having a specific remit to go a bit further and address financial imbalances without the requirement that it is specifically identified as a systemic risk. This is positive for financial stability, especially given the difficulty in modelling accurately likely defaults, but also allows FI to act on imbalances which can lead to large macroeconomic fluctuations—which are undesirable from a welfare point of view—and can lead to disruption in the provision of financial services even if they do not tip into a fully blown financial stability risk [especially if the reason for not having a full scale crisis is due to high levels of capitalization.

FI should consider introducing a new regulatory or supervisory measure: an interest rate stress test that banks or FI should apply for short-term variable rate mortgages based on interest and amortization payment as a proportion of income. This would help guard against a recent decline in lending standards based on the interest rate stress test where the market standard has declined from 7 percent to around 6 percent even as expectations of further increases in policy rates have been increasing.

The government should commission an independent study into the distortions from the interest tax deductibility so that it is clear where the costs and benefits lie. At around -30 percent, Sweden's marginal effective tax rate for owner occupied debt-financed housing is the third lowest in the OECD. The tax deductibility of interest payments will insulate households against an increase in the short-term but in the long term it encourages higher indebtedness and higher house prices. The competitive structure of the mortgage market will be a determining factor of to whom the benefits accrue—to households or whether it is passed through to the banks. The government should consider asking the competition authority to co-author the report.

Commercial real estate firms (CREs) raise substantial risks to the financial system due to funding risks as well as broader spillover effects to the real economy (Figure 14). In recent years CRE companies have made increasing use of market-based finance. But this leaves them vulnerable to a change in market sentiment that could drastically increase their funding costs, or even cut off funding all together. Some CRE firms might be able to draw down credit lines from banks, or even benefit from bank lending beyond that, albeit at higher cost. However, some may have to shed assets or declare insolvency. Several *amplification* mechanisms could worsen the outlook for commercial real estate. Concentration among CRE companies could lead to contagion effects among CREs. Similarly, investors may pull back from all CRE issuance with little discrimination for quality of underlying assets due to asymmetric and opaque information. Liquidity premia on funding costs will undermine CRE company profits and lead to further credit risk premia. And redemptions from investment funds would further withdraw liquidity and in turn boost funding costs. In addition to amplification mechanisms, broader *spillover effects* could turn a CRE shock macro-critical. Redemption requests could impact prices of securities more broadly. Liquidations of assets could lower property values across CRE and possibly residential real estate, weighing on consumption and investment, and bank capital. And hits on bank capital due to provisioning charges and/or outright losses could crowd out credit to the economy.

Short of introducing new borrower-based measures to curb market funding, CRE firms should be made to improve their disclosures, including on contingency plans when market funding dries up. Such disclosure should be included in the bond issuance template, and it should be encouraged by the authorities and, potentially also by the securities market association. This will help investors assess the firm and improve market discipline in the primary issuance market. Firms with more viable contingent funding plans, or collateral whose valuation is less dependent on recent upturns in prices, will be able to fund themselves at a lower cost. Having better disclosure will also ensure investors can distinguish between more solvent and less solvent firms reducing contagion across the sector. In addition, improvements to the liquidity of the corporate bond market are

needed—in particular the issuance of a benchmark bond and increased standardization will reduce the price impact of distressed sales.

The authorities should also consider further increasing capital requirements for banks exposures for CRE risks. FI should consider further increasing capital requirements against commercial real estate as the concentration, structural issues, and feedback loops raised in this section suggest that the capital required by banks may be insufficient. The micro-prudential stress tests also point in this direction (see the Systemic Risk Assessment TN). Ideally, these feedback loops will one day be integrated in the stress-testing model.

Table 1. Sweden: Recommendations on Macroprudential Policy

Recommendations	Agency	Priority*
Institutional Setup		
1. FSC, FI, and the Riksbank to make more use of “soft power” and joint communication for important issues, such as asking CRE firms to disclose their contingency funding plans in firms’ annual reports and bond prospectuses.	All	H/M
2. The FSC prep group and perhaps also the FSC should have a horizon scanning meeting once or twice a year.	All	H
Risk monitoring		
3. The initiative to improve household data collection is a high priority but will take time, FI and the Riksbank should make significant advances in analysing the household sector, such as by continuing to conduct surveys in the meantime and increasing their resources for analysing or increasing the frequency of collection of the data they do have	FI and RB	H
4. FI and the Riksbank need to better model tail risk, spillovers, and interconnectedness and consider how to best allocate resources and share this expertise.	FI and RB	M/L
5. FI should emphasize even more that their presentation of risks from households reflects both parts of their remit—financial stability and financial imbalances.	FI	H
Systemic Risk		
6. FI should consider gradually increasing the mortgage amortisation requirement to ensure households build resilience over time and reduce financial imbalances.	FI	H
7. Introduce standards on the interest rate stress-tests that banks (or FI) could apply for mortgage loan applicants based on their (interest and amortization)/income or some other measure that achieves the same outcome of household resilience to an increase in interest rates and guards against a decline in lending standards by banks.	FI	H
8. The government should commission an independent study to determine the costs and benefits from the tax deductibility of mortgage interest.	MoF	M
9. FI should consider to further increase capital requirements and/or buffers for banks’ exposures to CRE risks—due to amplification channels and spillovers to the macro economy.	FI	H/M

10. FI should adjust their solvency stress tests or supervisory intelligence to examine the impact on banks if all contingent credit lines were drawn down in a short period of time.	FI	M/L
11. Authorities should continue to encourage, where appropriate, issuance of benchmark bonds which would improve corporate bond market liquidity.	FI, FSC, RB	H
12. Short of borrower-based instruments to curb CREs' market funding, authorities should encourage CRE firms to disclose their contingency funding plans in firms' annual reports and bond prospectuses, to allow investors to better assess the risks with CRE bond market issuance and to distinguish between firms. The authorities should continue to work on borrower-based instruments for macroprudential reasons and consider whether FI's regulatory perimeter needs expanding.	All	H
*H: within 1 to 2 years; M: within 2-3 years; L: within 3-5 years.		

INSTITUTIONAL FRAMEWORK

1. Strong institutional arrangements for macroprudential policymaking are vital to ensure that macroprudential policy can be effective. The institutional framework should promote the *willingness to act* and thereby overcome the underlying policy inaction bias that results from the cost of policy actions being earlier and more easily observable than their potential benefits. The arrangement should also foster the *ability to act* to increase the resilience of the financial system and mitigate systemic risk. Finally, the framework needs to promote *effective cooperation and coordination* between institutions with a financial stability mandate. This section evaluates the current institutional arrangement against these three key principles, which are set out in [the 2014 IMF Staff Guidance Note on Macroprudential Policy](#).

A. Willingness to Act

Existing Setup and Assessment

2. International experience has shown that certain institutional aspects can foster strong willingness to act¹ and overcome potential inaction bias. These include a clear mandate; involving the central bank in order to harness its expertise, incentives to take action, and independence; involving the relevant regulatory and supervisory authorities; transparency and accountability mechanisms to establish legitimacy.

3. In Sweden, Finansinspektionen (FI) has responsibility over macroprudential policy, with the Riksbank taking an important monitoring role. But an overall decision-making body with responsibility for the entire financial system including payments and lender of last resort

¹ [Elements of Effective Macroprudential Policies: Lessons from International Experience; jointly by IMF-FSB-BIS; August 31, 2016.](#)

facilities does not exist within the Swedish institutional framework. The Financial Stability Council (FSC) is a discussion forum, but it is limited in that, constitutionally, no authority can ask another to take an action. This is not unusual, as evidence suggests that only a quarter of Financial Stability Committees have any powers beyond information sharing and advising.²

4. FI has been mandated by the Swedish government to promote a stable financial system, characterised by a high level of confidence and well-functioning markets. The mandate was expanded in 2016 to include ensuring that the financial system provides a high level of protection for consumers and implementing measures to counteract financial imbalances that can affect the macroeconomy. This includes a remit to address things like high debts and high risk-taking among households and non-financial companies, which exacerbate fluctuations in the real economy, or which can threaten financial stability by leading to spillovers to other sectors and increase systemic risk.

5. The expansion of FI's mandate in 2016 means that FI has the authority to go beyond ensuring banks are safe but also to counteract financial imbalances. This gives FI a macroprudential mandate to complement its already existing microprudential one. The expansion considerably clarified FI's ability to take measures in the housing market, as previously there was uncertainty about whether they had the power and mandate to do so. The expansion meant that issues such as high debts and high risk-taking among households and non-financial companies, which exacerbate fluctuations in the real economy or can threaten financial stability by leading to spillovers to other sectors and increase systemic risk were now within the remit of the FI mandate. Most macroprudential regulators have a remit to address systemic risk—and generally indebtedness is considered a systemic/financial stability risk because the exacerbation of the downturn leads to higher impairments for banks which can threaten their solvency position. FI is unusual in having a specific remit to go a bit further and address financial imbalances without the requirement that it is identified as a systemic risk. This is positive for financial stability, especially given the difficulty in modelling accurately likely defaults, but also allows FI to act on imbalances which can lead to large macroeconomic fluctuations – which are undesirable from a welfare point of view – and can lead to disruption in the provision of financial services even if they do not tip into a fully blown financial stability risk [especially if the reason for not having a full scale crisis is due to high levels of capitalisation].

6. FI has autonomy with capital instruments, but the government has to approve any borrower-based measures on households and non-financial firms. This limits the independence of macroprudential authorities. The Riksbank has also publicly stated its concerns³ that this limits the speed at which the authorities can react to risks. Given the need to rapidly innovate new tools to take action on the risks arising from household debt, and accountability concerns with giving unfettered access to macroprudential tools, a wide mandate where the authorities request consent from the government after making their case for borrower-based tools may have net benefits over

² [A New Dataset of Macroprudential Policy Governance Structures \(federalreserve.gov\)](https://www.federalreserve.gov)

³ [Proposal from the Ministry of Finance for more macroprudential policy tools | Sveriges Riksbank](https://www.riksbank.se/press/2016/06/20160601-proposal-from-the-ministry-of-finance-for-more-macroprudential-policy-tools)

giving the authorities a narrower set of borrower-based tools with prescribed ways to use them even if it comes at the cost of speed.

7. While the need to ask the government limits independence, the setup of the Financial Stability Council and the Prep Group can help to counter potential inaction bias and ensure that decisions are taken rapidly. While the FSC is unable to take any decisions, or direct another institution to take action, the existence of multiple authorities, including a member which does not report to the government means that a consensus can be built for macroprudential policy actions, which makes it easier to counter inaction bias. The Prep Group usually meets monthly to discuss issues of macroprudential policy which means that consensus can be reached on a much faster basis than if everything was coordinated through the FSC which usually meets only every six months.

8. The new Riksbank act will also help overcome potential inaction bias. The Riksbank act which will come into force in 2023 will specifically enhance the Riksbank's mandate to monitor financial stability risks and also provide the Riksbank with a specific responsibility to inform other authorities: *"give an account of the assessments. If the Riksbank deems that these risks may affect the activities of other authorities the Riksbank shall draw the attention of the authorities and other bodies affected to this."*

9. As risks move beyond the banking sector the mandate becomes less clear and the increase in market-based finance challenges macroprudential policy. Tools are not yet well developed for borrower-based measures beyond those applying to lending to households and many market based finance participants are outside national regulatory perimeters—although for Sweden they may fall within EU regulation. Moreover, interlinkages and spillovers between different parts of the financial system mean that the objectives of each authority can be affected by the other. For example, an increase in market-based finance—in part driven by more stringent regulation on the banking sector—can lead to financial markets becoming more volatile.

B. Ability to Act

Existing Setup and Assessment

10. FI has been given powers over capital requirements and is able to propose new tools on borrower-based measures. FI also has access to the full toolkit provided by CRR and CRDV which specifies macroprudential tools for EU countries. The table below shows the tools that the Swedish authorities have used, and that they do not seem to be outliers compared to similar countries. The authorities do have access to tools which they have not used, such as the cap on the LTI but have stated that they have chosen not to do it—even with portfolio limits—because of concerns about the distributional effect on the banking system as some banks are highly concentrated in lending in cities where LTI requirements would be more binding. Instead, FI has chosen to use LTI-based amortisation requirements, which to an extent, has a lesser distributional impact

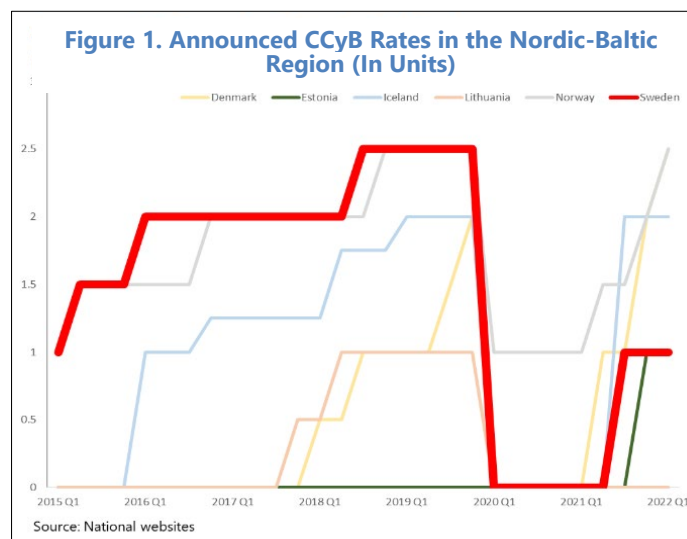
Table 2. Sweden: Tools Used by a Selection of Macroprudential Authorities

Measures	Sweden	Australia	Canada	Finland	France	Israel	Italy	Japan	Korea	New Zealand	Switzerland	United Kingdom	United States
Borrower-based													
Cap on LTV	x		x	x		x			x	x			
Cap on LTI					x				x				
Cap on DSR			x		x	x			x				
Amortization limit ¹	x		x		x	x			x				
Restrict unsec. loans									x		x		
Other		x	x			x						x	
Lender-based													
Household sector capital requirement	x	x	x			x	x	x		x	x		
Limit high LTV										x			
Limit high LTI												x	
Limit high DSR					x								
Other limits					x								
Fiscal measures			x		x					x			

¹ In 2010, Finansinspektionen introduced an 85 percent LTV limit. In 2014 introduced amortization requirements which are based on the LTV (e.g., above 70 percent LTV borrowers must amortize 2 percent per year, and 1 percent from 50-70 LTV). In 2018 FI added an extra 1 percent a year if the LTI is above 4.5 percent.

11. Sweden was also an early adopter of the countercyclical capital buffer. As the chart

below shows, Sweden was the first BCBS member to use the CCyB. In the world, only Norway had activated theirs earlier, and the Swiss measure is a sectoral CCyB. Prior to the pandemic 8 out of 27 BCBS member countries had a positive CCyB or sectoral CCyB (six countries) or had announced an intent to activate the CCyB. In the Nordic-Baltic region, where countries had more similar credit cycles the authorities in Sweden were still relatively early movers. Edge and Liang (2020)⁴ have shown evidence that stronger committees tend to be more active in using countercyclical capital buffers, FI has the sole responsibility for the CCyB and so this early and proactive use is not a surprise. There have been disagreements raised with the FI with the Riksbank wanting a higher level and faster implementation (something which is only possible under exceptional circumstances under CRDIV).



⁴ [Financial Stability Committees and Basel III Macroprudential Capital Buffers \(repec.org\)](https://www.repec.org/)

12. But both FI and the Riksbank are less able to tackle a growing source of systemic risk—that which arises from the increase in market-based finance. This is a global issue: market-based finance has grown rapidly, and tools are only just being developed.⁵ Around 30 percent of investors in Swedish corporate bonds are foreign and therefore outside the influence of the authorities.⁶ In addition, it is easy for the investment funds already located in Sweden to relocate themselves to avoid regulation. As a result, global, and European coordination, is necessary for the authorities to be able to develop a complete macroprudential tool kit to address risk from non-bank finance. This is currently underway and being led by the FSB.⁷ The FSB has published a report on policy proposals to enhance money market fund resilience. FSB members are now assessing vulnerabilities in their jurisdiction and deciding which policies to adopt. The FSB will review members' progress in 2023. The EU have not developed policy proposals yet, however the ESRB and ESMA have set out their recommendations for the European Commission to consider. There is still uncertainty about the final reforms packages in the EU and US as they go through the remaining stages of decision making.

13. FI supervises many non-banks including investment funds and insurance firms but lacks an adequate toolkit to address risks. According to the Swedish mutual fund legislation, FI has the power to suspend sale and redemptions of units in funds, if it is in the interest of the unit-holders or of the public. But this must be done at the individual fund level even if such a decision by FI is taken to ensure financial stability. FI has never used the possibility to suspend sale and redemptions, and there is no detailed framework set out in the legislation for the use of this possibility. During the pandemic several funds suspended themselves.

14. Where tools do not yet exist, or authorities do not yet have the powers, communication about risks or desired changes in behavior can be an effective alternative. As evidenced by the increase in countries publishing financial stability reports after the global financial crisis (Osterloo et al. (2011)) communication on financial stability can be an important tool. Communicating about risks can induce agents to change their behaviour or reprice risks; and it can also help build consensus for policies. There is some evidence that communications through FSRs may reduce the probability of extreme events, but only if they are delivered with a considerable lead (Correa et al. (2020)). Both the Riksbank and FI publish FSRs to communicate both their views on financial stability and the action they would like to see; this is supplemented by members of the board who regularly give speeches on financial stability topics.

⁵ See <https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2021/09/13/Investment-Funds-and-Financial-Stability-Policy-Considerations-464654> for a useful discussion.

⁶ Source: Macrobond, Statistics Sweden and the Riksbank.

⁷ [Non-Bank Financial Intermediation - Financial Stability Board \(fsb.org\)](https://www.fsb.org/)

C. Cooperation and Coordination

Existing Setup and Assessment

15. The FSC acts as a coordination and cooperation body between the authorities, but the constitution means that the FSC cannot be a decision-making body. This limits what can be done if authorities do not agree over a position or have clashing objectives, and spillovers are not fully internalized. For example, the Riksbank does not have to fully internalize the financial stability risks from its quantitative easing (QE), nor does FI have to fully consider how financial imbalances affect the monetary policy reaction function. However, the discussion forum means that authorities are able to freely state their opinions and share analysis of topics—although there is no obligation to take these views into account. The setup as an independent body with a separate secretariat rather than having it be run by FI or the Riksbank should be maintained to make clear that each authority is bringing their own view and free to discuss.

16. The FSC can commission topics for discussion which cross all the institutions which helps the authorities internalize the effects of their policies. One recent example is the commission of a review of reduced liquidity in the government bond market and work towards identifying possible measures. This is one way in which the authorities can take an overall view of a potential risk to financial stability or investigate the spillovers to the financial system as a whole. The FSC usually only meets twice a year, but the working level preparatory group meets more often and has been a productive mechanism for information and analysis exchange.

International Cooperation and Reciprocation Would Ensure that Swedish Macprudential Measures Can Be More Effective

17. The Swedish financial system is very open and very connected. In 2018, Nordea, a major bank which was previously headquartered in Sweden, moved to Finland and became supervised by the Single Supervisory Mechanism (SSM) rather than FI. Nordea is one of the largest banks in Sweden with about 30 percent of the lending market. Macprudential measures which were based on national legislation still apply to Nordea based on reciprocation under the article 458 in CRR. Sweden has a long history of cross border cooperation with the other Nordic and Baltic countries and in addition to the ESRB reciprocation arrangement in the EU, the Nordic and Baltic supervisory authorities together with the ECB/SSM for example signed a Memorandum of Understanding on supervision of significant branches in 2016.⁸ The MoU states a clear ambition to reciprocate national macro prudential measures.

18. Yet macroprudential measures adopted in Sweden do not automatically apply abroad. Such is the case of changes in risk weights which would not apply to Nordea's branch in Sweden. FI has needed to seek reciprocity from the Finnish supervisory authority. Given the clear ambition

⁸ Article 47 <https://www.fi.se/contentassets/dbde31519a7543a18808d3db1deacb4e/mou-filialer-nordiska-lander-2016-12-19n.pdf>

expressed in the MoU, reciprocity has always been granted. For measures under article 458 FI have had to renew its request for reciprocity periodically when the measure has been prolonged.

19. FI has found the reciprocation policy from the ESRB to be helpful in ensuring the effectiveness of their macroprudential policies.⁹ The reciprocation arrangements in the EU are outlined in the table below with the arrangements which are particularly important for the Swedish authorities highlighted. In particular, FI have stated that they have explicitly chosen to use article 458 for which the ESRB encourages reciprocation for their residential risk weight floor to ensure that the measures are reciprocated by Nordea and Danske bank.¹⁰ Continued coordination via the ESRB and the Nordic-Baltic Macroprudential Forum (NBMF) will continue to improve the effectiveness of macroprudential policies compared to a counterfactual of non-reciprocation.

Table 3. Sweden: Reciprocation Arrangements in the EU

Macroprudential Measures	Legal Basis	Reciprocity
CCyB	Articles 130, 135-140 CRD IV	Mandatory up to 2.5 percent
Risk Weights	Articles 124 or 164 CRR	Mandatory
“Flexibility package”	Article 458 CRR	Voluntary
Systemic Risk Buffer	Articles 133-134 CRD IV	Voluntary
Pillar 2 add-ons	Article 103 or 104 CRD IV	Not mentioned
Liquidity requirements	Article 105 CRD IV	Not mentioned
O-SII buffer	Article 131 CRD IV	Not mentioned
LTV/LTI limits	National legislation	Not mentioned
Loan-to-deposit limits	National legislation	Not mentioned

20. FI has stated that it would increase the CCyB beyond the mandatory reciprocation limit of 2.5 percent. But reciprocation of rates above 2.5 is currently untested. The ESRB recommends that member states generally recognise each other's buffer rates, including buffer rates exceeding 2.5 percent.

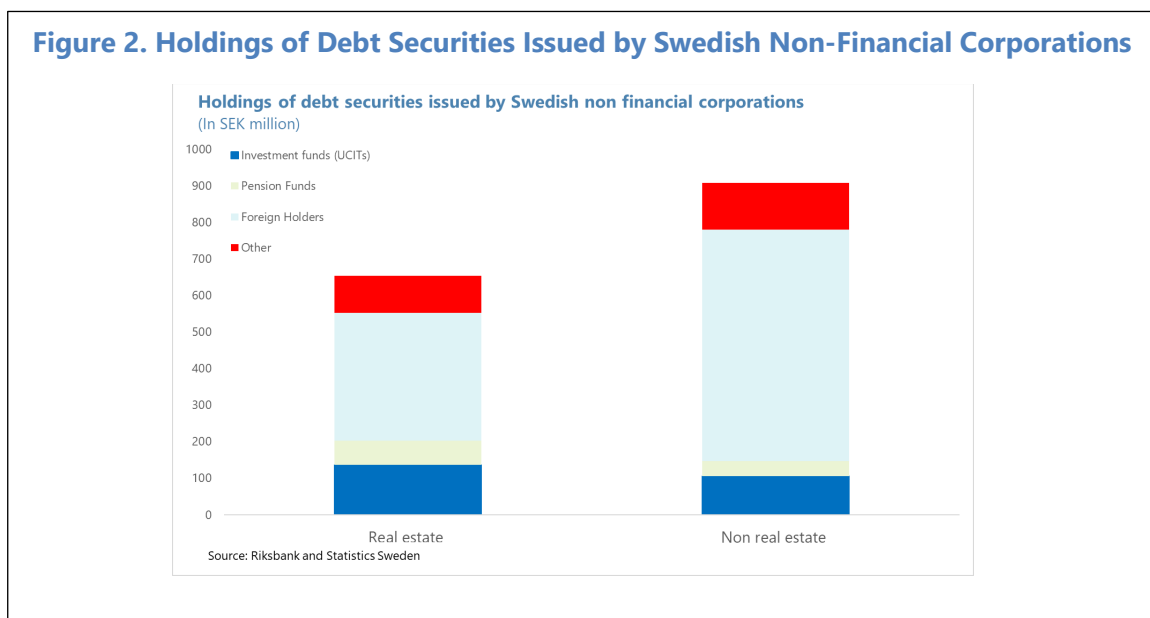
21. As Sweden has a positive neutral CCyB rate of 2 percent, it is likely that a higher level of capital would be needed when risks become more elevated. Given the importance of Nordea in the Swedish banking system it is important that, should the authorities go above 2.5 percent, the measure is reciprocated to ensure both the financial stability benefits and a level playing field. The authorities have also communicated this when commenting on the open EU consultation on the

⁹ For more details of the ESRB's role in reciprocation please see https://www.esrb.europa.eu/national_policy/reciprocation/html/index.en.html.

¹⁰ See for example notifications to the ESRB <https://www.fi.se/contentassets/7fef1f214bc7487793e3d32a08845687/se-notification-article-458-crr-2021-09-20.pdf>.

macroprudential framework.¹¹ The authorities should continue to make their case that reciprocating macroprudential measures is important for financial stability and continue to welcome and support the ESRB's recommendation that macroprudential measures should be reciprocated.

22. Coordination is not just needed for banking measures; foreign institutions are large participants in many financial markets. As the Figure 2 below shows, foreigners are the dominant buyer of corporate bonds. This can improve liquidity, but it also limits the extent to which the authorities can apply macroprudential measures.



23. The Swedish authorities have several fora for cooperation including the supervisory colleges and the NBMF. The NBMF was established in 2011 at the initiative of FI and the Riksbank as a high-level forum for both central bank governors and heads of supervisory authorities in Nordic and Baltic countries. Sweden has been the chair of the NBMF since its inception, and presently the Director General of FI is the chair. Meetings are held twice a year. While the NBMF is an informal body with no decision-making authority, the mandate of the Forum has been to discuss risks facing financial stability in the Nordic-Baltic countries and the implementation of macroprudential measures. Separate work streams have been established for more in-depth examination of the countercyclical capital buffer and reciprocation of macroprudential policies. The authorities have stated that the creation of the NBMF has substantially contributed to promoting the cooperation between the macroprudential authorities in the region.

¹¹ <https://www.fi.se/contentassets/425c102597d44971a47ade872a9f3da6/svenskt-svar-makrotillsynsramverket-banker2.pdf>.

D. Recommendations

24. The authorities should make more use of “soft power” and joint communications, especially when risks become more systemic, as with market-based finance. A recent example is the joint article in a prominent newspaper by the heads of three authorities to encourage firms to issue corporate bonds in line with the proposed benchmark.¹² Communication is a powerful macroprudential policy tool¹³ and the FSC members should strategically use this power both individually and separately. Communication can often be the only tool when the risks are outside of the regulatory perimeter but can also be used to complement existing or newly introduced measures. Joint communication can also make it harder to be captured by short-term interests or lobbying by particular special-interest groups, whether financial sector or political lobbying.

SYSTEMIC RISK MONITORING

A. Responsibility for Monitoring

Existing Setup and Recommendation

25. Both FI and the Riksbank have a responsibility for monitoring the financial system and financial stability. Both Riksbank and FI produce a financial stability report (FSR) every six months which aims to focus on the key risks facing the financial system. In the case of FI, it is obligated to produce a financial stability report twice a year [for the government]. The Riksbank has a duty to monitor the financial system.

26. This means that FI and the Riksbank can exploit their comparative advantages. As noted by Flug and Honohan (2022) the Riksbank’s capacity for macroeconomic policy research means that it is well equipped to examine financial stability. And FI has deep knowledge of the institutions it supervises.

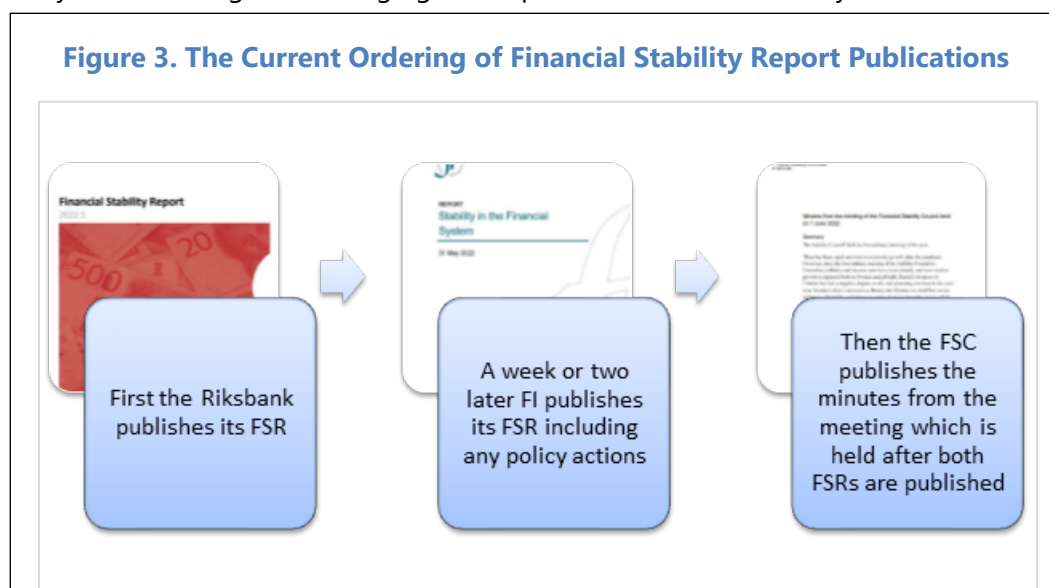
27. But the separate monitoring could come at a potential cost in that no institution takes an overall view of the financial system that is both broad and deep. And there is a risk that some spillovers from one sector to another are not captured. Or that potential amplifiers are not sufficiently taken into account. The dual monitoring responsibility helps ensure that risks are not missed. Risks are not missed, but their impact assessment may be biased because of inability to capture all feedback loops. The monitoring mandate for both Finansinspektionen and Riksbank is broad, and this can help ensure that there is no underlap. To an extent, the discussions at the FSC prep group can ensure that cross-cutting issues are covered and ensure spillovers from one sector to another are taken into account.

¹² [DEBATT: Debatt: Dags för en svensk benchmarkstandard för företagsobligationer \(di.se\)](#)

¹³ See for example [Objective-setting and communication of macroprudential policies \(bis.org\)](#)

28. The FSC and its constituent members in the preparatory group have a very wide area of expertise. The fact that each member can propose an issue to the workplan together with the regular topic focus discussions can also ensure that risks are covered. Recent topics for discussion have included climate risk, commercial real estate and cryptoassets, all of which contribute to a forward-looking agenda.

29. Having the Riksbank publish its FSR before the FI publishes its FSR means there can be a clear view of the macroeconomic backdrop the authorities are facing, but can lead to a lack of clarity. Some market participants have noted that when the Riksbank has made recommendations about actions the authorities should take, it has created a bit of uncertainty about what FI will do. The authorities should think strategically on how to make communication on risks more effective and on where they can be most influential with their different communication channels. The publication of the FSC minutes after the two financial stability reports can be an important way of reinforcing the messaging to the public on financial stability risks.



B. Data Collection and Data Gaps

30. Macroprudential policy needs to be based on continuous assessment of evolving risks, many of which are new or untested and spill over from one sector to another. This means that not only do authorities need the data to be able to understand the risks that they are facing, but they also need the capacity to be able to analyze it, consider how risks might become systemic as they flow through the financial system. The authorities also need to be able to use this data and analysis to calibrate their policies optimally. Data should be high frequency, high quality and collected at the micro, rather than aggregate, level.

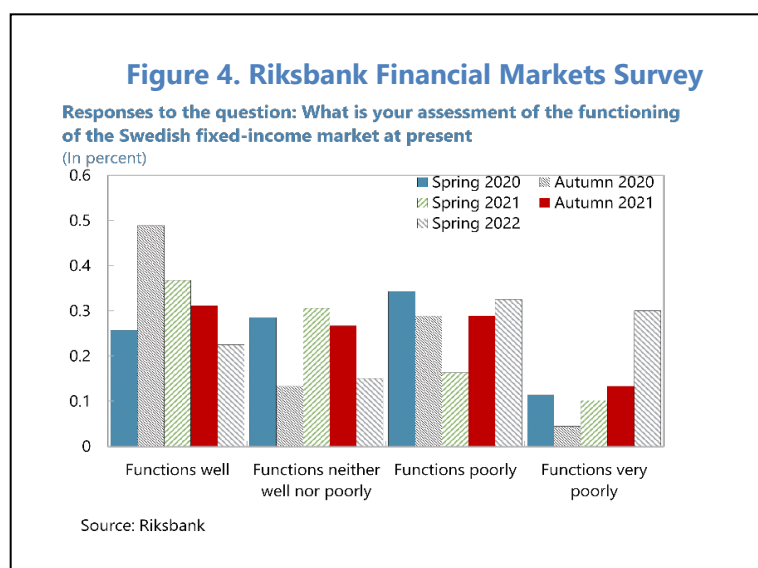
Existing Setup and Assessment

31. FI has a relatively broad mandate to collect data when investigating entities under FI's supervision. FI has the power to collect information from any entity within the same group as an

institution it supervises. In some cases, FI may request information from institutions it does not supervise as FI is the responsible authority for the Swedish financial market statistics. Apart from this, FI does not have general legal power to collect data directly from unregulated financial institutions and/or other private agents, such as households and nonfinancial firms.

32. The Riksbank has fewer data collection powers. While the new Riksbank act will increase their powers the Riksbank will also have to be clearer on the purposes for which they will collect data, and there is currently a lack of legal clarity over how the data can be used. The Riksbank directly gathers statistics from banks and infrastructure companies. When necessary, the Riksbank also conducts its own surveys, aimed in various ways at highlighting conditions on the financial markets.

33. Twice per year, the Riksbank sends out a Financial Markets Survey to participants active in the Swedish fixed income and foreign exchange markets. This survey is published before the FSR. The purpose of the survey is to gain an overall picture of participants' views on the Swedish financial markets: how they are working, what market activity looks like, and how extensive their risk-taking is, which complements market intelligence undertaken by the Markets part of the Riksbank. This survey provides a simple way to see what market participants, who all have skin in the game, are thinking, in ways which may not be apparent from the existing data. For example, the deterioration in market functioning can clearly be seen in Figure 4 below from the latest survey.

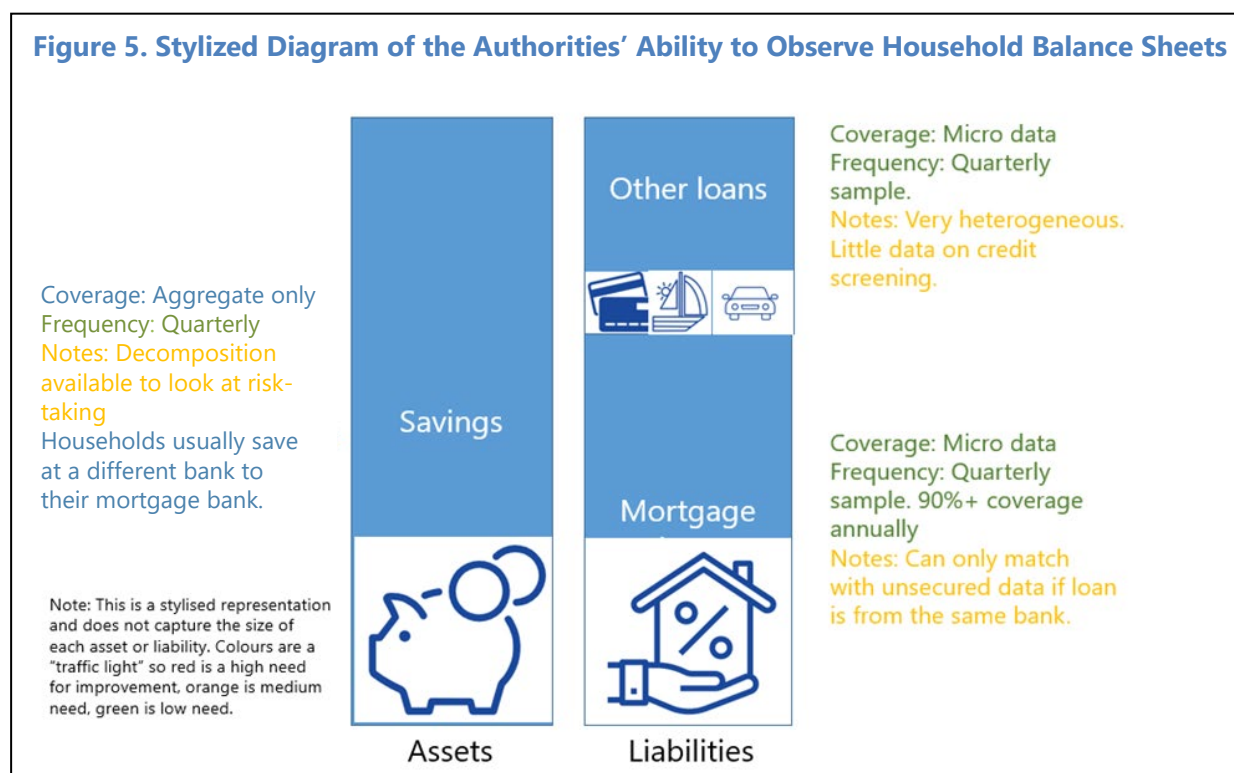


Data Collection: There Are Some Key Data Gaps

34. The authorities have made substantial improvements to the data they have since the previous FSAP and further planned improvements are underway. Overall, the authorities have good access to micro data - data collections such as the mortgage survey, consumer loan survey, commercial real estate loan survey as well as a database covering all loans to non-financial firms are

all examples of high-quality micro data that the authorities have access to and make use of in their analysis.

35. The authorities lack data on household assets on a micro level (full balance sheet) which means it is difficult to assess some key spillover channels such as the cut in consumption following a downturn. The most important data gap for the household sector is the lack of data on complete household balance sheets, especially as Swedish households have high levels of wealth which is an important mitigant in the consumption channel¹⁴ The data situation for households is summarised in the very stylised diagram below and discussed in more depth in the separate box.



36. Data on the liabilities side is good, but with considerable room for improvement. While household debt in Sweden is high, households also have considerable savings which can offset the impact of high debt. But this is very unevenly distributed, meaning that using aggregate data on households would lead to overly optimistic analysis.

37. The authorities are consulting on a new data collection for households (see Box 1). This would improve the analysis of the key financial stability channel of how households cut

¹⁴ See for example [Do households with debt cut back their consumption more? New evidence from the United Kingdom - Fasianos - 2022 - Bulletin of Economic Research - Wiley Online Library](#) and Baker, S., R. (2018): "Debt and the Response to Household Income Shocks: Validation and Application of Linked Financial Account Data" *Journal of Political Economy* 2018 126:4, 1504-1557. <https://doi.org/10.1086/698106>

consumption in response to a shock. It also means that FI would be better able to calibrate and target macroprudential policies leading to better cost-benefit trade-offs. It will also mean that it is easier for anyone to assess the effect of macroprudential measures and therefore improve accountability.

38. FI has limited access to micro-level data on CRE firms' market financing. Work is underway to get access to such data through Statistics Sweden and/or the Riksbank. Furthermore, FI is working to get access to data on owners of non-financial companies' bonds and commercial paper to investigate threats to financial stability through other financiers than banks. FI also needs more resources and skills in both data governance and modelling micro level data for firms.

39. Available fund data is not sufficiently granular or frequent enough. Flows are only reported at quarterly frequency by funds and asset managers. For UCITS funds stress testing, FI uses several commercial data sources to complement supervisory information, but this type of data is often available only at aggregate level with gaps, which limits the flexibility of the stress test exercise that FI undertakes.

Box 1. Household Debt Statistics

There have been large improvements in the collection of data for households since the last FSAP.

Currently, FI has a very comprehensive mortgage market survey, which surveys new mortgages. These new mortgages cover house purchases, refinancing and household that moves from one bank to another—but does mean that the data is *flow* data rather than *stock* data. This means that FI can monitor new mortgages and also use the data for other purposes and in that way monitor the stock of mortgages. Recently, the survey has allowed FI to also collect data on unsecured loans, and the purpose for which they are reportedly used, to allow FI to get a better picture of borrower's overall indebtedness.

For the last four years, FI has been working on a new data project, which will allow FI to collect a subsample of banks' customers. Covering both retail loans and the customers savings. Currently, the mortgage survey is annual, but this survey will allow FI to monitor new loans with higher frequency as it will come at a different time to the survey. This year, 2022, is the first vintage of this collection. This will allow FI to better analyze the development of mortgage activity over time and increase the frequency at which FI receives information about mortgages. Given the high proportion of loans—around 50 percent—with very short term, i.e., under three months, fixation periods, together with the fact that household balance sheets can deteriorate quite rapidly, the increase in frequency of collection will significantly increase the ability of the authorities to monitor household indebtedness in a timely manner.

With the new collection, FI can collect household data to get a better picture of household finances, with respect to both their assets and their liabilities, but it is only able to do it at the *household-bank level*. But it is common in Sweden to have savings in a different financial institution to their mortgage bank. Even with this improvement, it is difficult to examine the extent the household liquid asset buffers limit their vulnerabilities related to their debt.

The Government commissioned an inquiry in 2021 to investigate how individual-based statistics on households' assets and liabilities can be produced. The statistics should contribute to a complete picture of households' financial position but must not compromise personal integrity and the protection of personal data. The inquiry chair is to report on the inquiry's remit by October 14, 2022.

40. The Centralized Securities Database (CSDB), which is useful for monitoring financial markets, is restricted to Central Banks meaning FI cannot have full access to it. The Centralised Securities Database” (CSDB) is a security-by-security reference database that contains data on instruments, issuers and prices for debt securities, equity instruments and investment fund shares issued worldwide.¹⁵ A security-by-security database is a micro database that stores statistics at an individual security level. This is a helpful dataset for examining both risks and interlinkages in financial markets. But FI cannot use it. The Riksbank is unable to share the data despite supplying the database with information on securities issuance. This is because the ECB supplement the original data with rating data which they have procured and so usage is restricted to central banks. Authorities where the microprudential supervisor is integrated within the Central Bank – which is the case for most EU countries - can use this data but this is not the case for FI. It would be helpful if the ECB and FI could come to a solution to this issue – without compromising the proprietary nature of the database – for example including – for these purposes FI in the “system of central banks” or extending the access to designated authorities.

C. Risk Modeling and Analysis

41. Modeling how risks propagate through the financial system is challenging. There have been very few financial crises, extreme events are rare, and the financial system has evolved rapidly since the Global Financial Crisis. This section evaluates how the authorities make use of the data and modelling capacity they have.

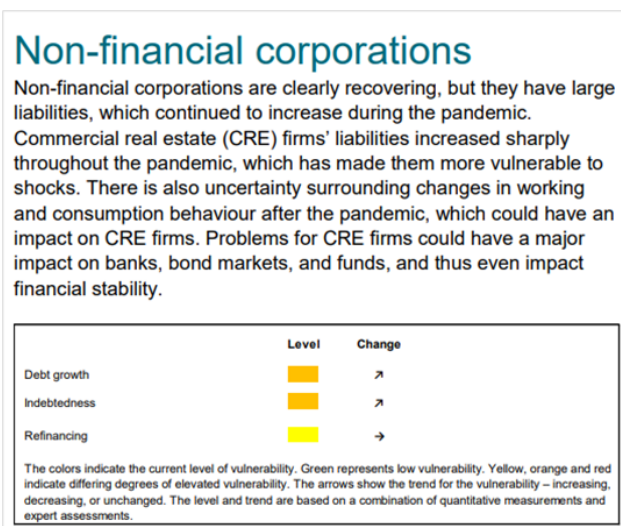
Aggregate Risks and Spillovers: Existing Setup and Assessment

42. Both FI and the Riksbank periodically publish in depth assessments of risks and the effects of policies. The Riksbank publishes economic commentaries and staff memos which may be either the Riksbank’s view or staff views, in which case staff are explicitly named. FI also produces analysis in its occasional “FI Analysis” series which takes a more in-depth look at an individual sector or an issue, usually from a macroprudential view. In both cases, the analysis is extensively discussed and presented internally. This acts as a useful complement to their financial stability reports (FSR) and allows topics to be discussed in more depth, while allowing their FSRs to be more focused on key issues and important updates. Both institutions commented that the financial stability report process helped them take a more system-wide look at the risks and helped them to focus on the important risks. The Riksbank’s first chapter explicitly aims to take an overall system-wide view.

¹⁵ [Details on the database](#)

43. Since 2021, FI have produced heatmaps which aggregate various indicators together and also take into account expert judgment. An example of this can be seen in Figure 6 from a recent FSR. This is a material improvement and represents a way to group vulnerabilities within a sector into their key components (debt growth, leverage, and liquidity risk) and aggregate different indicators. These heatmaps and direction changes also help with communication and accountability.

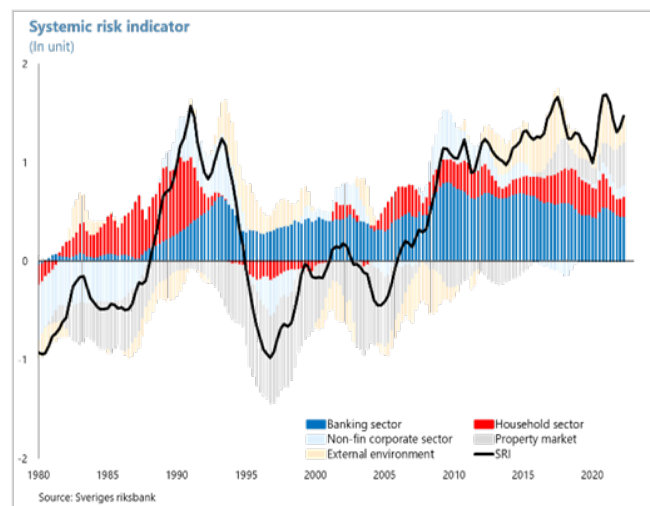
Figure 6. Example of FI FSR Risk Indicator Heatmap



44. The Riksbank has a number of modeling approaches for trying to look at the data on forward looking vulnerabilities and aggregate it.

This includes publishing the decomposition of their systemic risk indicator with its time series in the financial stability report as shown in Figure 7. While there are caveats with using any of these indicators, particularly those which rely on a long time series of data due to data quality issues and the evolution of the financial system, they are a useful starting point to see where the largest risks are and how the overall riskiness of the financial system has evolved. The Riksbank is also developing GDP at risk models and the systemic risk indicator has been incorporated into this model.¹⁶

Figure 7. Riksbank FSR Systemic Risk Indicator Time Series



45. These are a material improvement on monitoring aggregate risks compared to the 2016 FSAP but more progress is needed. In 2018, FI was commissioned to develop and present methods for identifying and evaluating macroeconomic and financial stability risks and for evaluating macroprudential policy.¹⁷

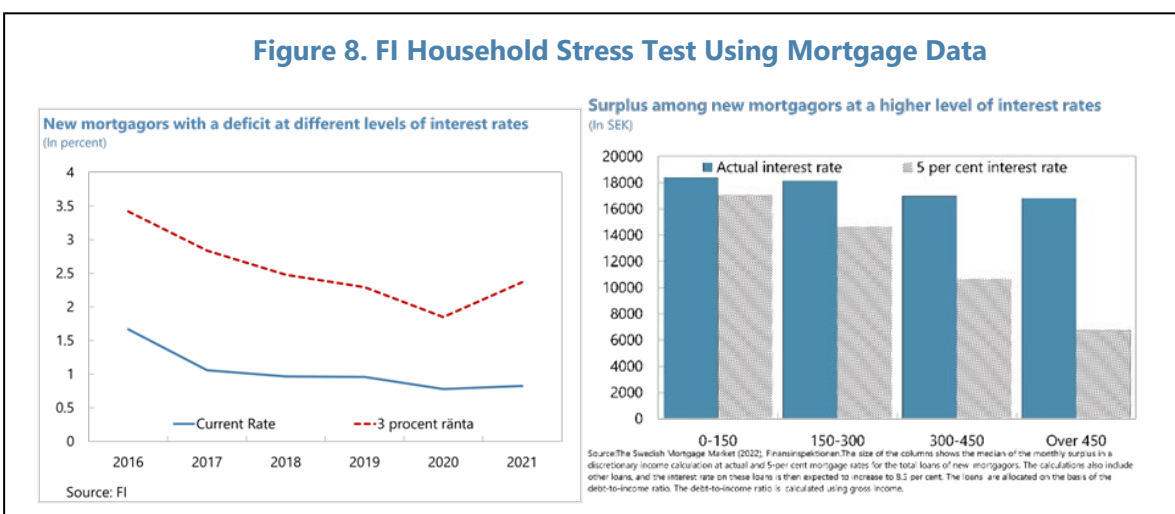
¹⁶ See for example: [Macrofinancial conditions, financial stability and economic growth in Sweden – evaluating the Growth-at-Risk framework \(riksbank.se\)](#)

¹⁷ See: <https://www.fi.se/contentassets/be52777b45194e2892a243793817b7ff/fi-och-finansiell-stabilitet-20191219.pdf> (in Swedish only)

In its response it noted that “An important part of the further work will be the development of intermediate stability targets, which will clarify the link between FI’s stability mandate and indicators of vulnerabilities in the financial system.” But it has not yet been able to build and sufficiently develop models which link and aggregates indicators to the targets or overall financial stability Modelling capacity at the Riksbank has been decreased slightly with the dissolution of the dedicated ‘Applied modelling’ division. This is against a backdrop of an increasingly complex and interlinked financial system meaning even with static resources, the gap between resources and requirements is likely to increase.

Household Risks: Existing Setup and Assessment

46. FI has stress tests for households using its data on mortgages but focuses on whether households have any money left after paying debts and standardized living expenses.¹⁸ This approach focuses on defaults, which affects the capital ratio of banks and is more microprudential than macroprudential as it does not consider the financial imbalances in the system or such as the effect of a cut in consumption from a fall in disposable income or other second round effects. The charts below clearly exhibit the different conclusions that can be drawn by focusing on defaults vs disposable income. The chart on the left shows that an interest rate increase would not have much impact on default rates which would remain low. However, the chart on the right shows that borrowers with an LTI above 3 would find their disposable income—alternatively “surplus”¹⁹—almost halved, and those with an LTI above 4.5 would lose around two thirds of their disposable income. Around half of borrowers have an LTI above 3 so this is, on aggregate, a large fall in disposable income, and a likely large effect on the economy and the financial system. As those households with high LTIs are unlikely to have higher liquid asset buffers than those with low LTIs—they are newer purchasers or younger households—this paints a very different picture of the effect of an interest



¹⁸ [The Swedish Mortgage Market | Finansinspektionen](#)

¹⁹ Surplus = Income after tax – interest payments – amortization payments – housing expenses – other living expenses

rate increase than would be seen from focus on just whether households have any disposable income at all.

47. Households make substantial use of the unsecured lending market in addition to the mortgage market. Over 20 percent of mortgage borrowers had existing unsecured loans when taking out a mortgage. Unsecured loans are smaller than mortgages, but often have a higher interest rate and a faster repayment rate than mortgages. These loans are therefore often a significant part of households' loan payments. In Sweden, households may borrow up to 85 percent of the home value as a mortgage (due to the mortgage cap). Above 85 percent it is possible to take out unsecured loans if the household have enough income to bear the loan payments. FI's internal analysis suggests that households are not using unsecured lending to avoid or reduce the amortisation requirement. They could do this by using the unsecured loan to obtain an LTV on the mortgage below 70 percent, where amortization drops from 2 percent to 1 percent a year. Instead, households are using unsecured loans to supplement the mortgage loan and participate in the housing market: the latest mortgage market report finds that 2-5 percent take a new unsecured loan when they take out a mortgage. FI should, to the extent that the data allows it, use this data on unsecured lending to ensure they get a fully integrated analysis of households' debt and potential payment difficulties.

Bank Risks: Existing Setup and Assessment

48. In the last few years FI has developed a number of models for stress-testing to see how banks' capital ratios could be affected in severe macroeconomic scenarios. Because credit risk has the most impact on major Swedish banks' capital FI has focused its modelling development there. FI's stress testing is based on a top-down approach, which means that FI's analysis is based on less detailed data than what the banks use in their own stress tests. On the other hand, the top-down approach makes the stress tests of different banks more comparable than the banks own stress tests that typically rely on different assumptions and models.

49. A lack of data from past crisis episodes makes it harder for the authorities to forecast how various markets might act in a stress. Sweden was relatively unaffected by the Global Financial Crisis and detailed data do not exist from the banking crisis in the 1990s. This means that there are very few default episodes which makes modelling losses in a crisis more challenging than it is for other countries. This makes it harder for FI to evaluate banks' IRB models, stress test the system adequately and calibrate capital requirements appropriately and means that it must rely on reduced form models using data from similar countries to Sweden.

D. Recommendations

50. The FSC prep group and perhaps also the FSC should have a horizon scanning meeting once or twice a year. The financial system is changing rapidly, and new risks are arising, or old risks are manifesting themselves in new ways as regulation changes firms' behaviours. The horizon scanning meeting could involve a discussion of new risks or structural changes in the economy or

financial system have changed behaviours. This would exploit the diverse set of expertise in the FS and ensure that risks are not missed.

51. The initiative to improve household data collection is a high priority but will take time.

FI and the Riksbank should make significant advances in analysing the household sector, such as by conducting surveys in the meantime. This requires both resources and competence in handling large micro datasets as well as the governance in handgun personal data.

52. The proposed data collection will lead to substantial improvements, but delivery is not expected for a few years.

There may be further delays in ensuring the data quality is sufficient and having sufficient vintages for confident analysis. The authorities should make significant advances in analysing the household sector, for example by drawing on other countries experience, or making assumptions about the distribution of liquid assets, or conducting surveys as to what households would do in the event of interest rate or income shocks, in the meantime.

53. FI and the Riksbank need to better model tail risk, spillovers, and interconnectedness

as the financial system becomes increasingly complex and interlinked with the risk of market-based finance the need for these models will increase. They are challenging and new areas to model. For example, technology for modelling tail risk measures such as GDP-at-Risk is evolving at a fast rate and modelling interconnectedness in financial markets requires the ability to work with extremely large datasets. FI and the Riksbank should seek to find the optimal mix of resources between them, exploiting the synergies that exist within their organizations—Riskbank with macro modelling and FI with supervisory data—to exploit their comparative advantages efficiently.

54. FI should ensure that their presentation of risks from households continue to reflect both their microprudential and macroprudential objectives.

Currently the analysis is more heavily balanced towards the microprudential with a focus on whether households will default and cause losses for banks rather than the wider risks to the financial system as a whole including the impact on a fall in consumption and subsequent defaults by corporates. Even if, because of data limitations, the analysis of financial imbalances must be more speculative, it should still be presented. The authorities can use caveats or present it making clear that the analysis rests on certain assumptions and then examining the sensitivity of the analysis to these assumptions.

SYSTEMIC RISKS, VULNERABILITIES AND TOOLS

55. Sweden entered the COVID-19 crisis with substantial buffers and swiftly adopted policies to limit the economic fallout.

The previous tightening of macroprudential policies and a well-capitalized financial sector meant that the authorities were able to loosen policies and limit the risks to financial stability. But a low period of low-for-long interest rates, a global phenomenon, meant households and corporates were highly indebted even before the pandemic hit.

56. But the pandemic left many households and corporates more vulnerable than previously.

An easing of macroprudential regulation and monetary policy, coupled with fiscal support during the pandemic have contributed to rising demand and a rapid increase in house

prices. Both house prices and total household debt in relation to income peaked in Q4 2021. And (Commercial Real Estate's) CRE sector's debt kept growing during the pandemic despite for example uncertainty about the future of demand for office space.

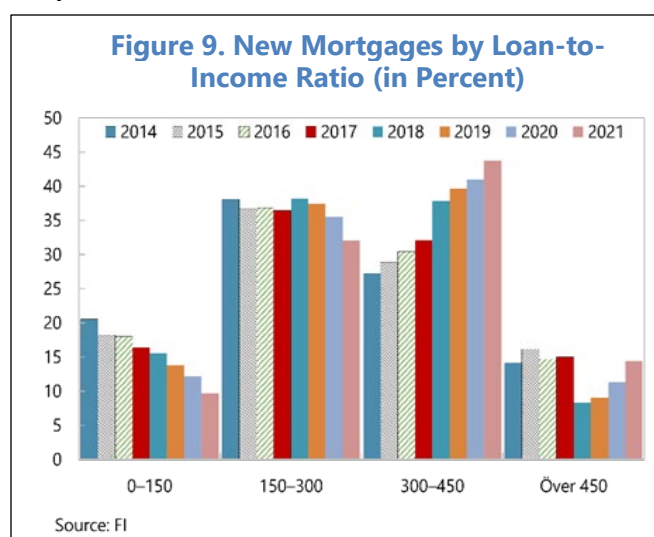
57. This section focuses on the key risks facing the Swedish financial system: the transition to higher interest rates, and the risk from commercial real estate.

A. Increase in Interest Rates: Situation and Assessment

A Normalization of Interest Rates Raises Difficult to Manage Risks to the Financial System

58. Following an extended period of very low interest rates the Riksbank has begun to normalize monetary policy. After a prolonged period of very low interest rates, adapting to higher interest rates can lead to considerable uncertainty both for financial market and real economy participants.

59. Swedish households are highly indebted and sensitive to an interest rate increase as well as facing higher prices for energy. In recent years households have borrowed more on aggregate relative to their income. And the proportion of households with high loan-to-income has increased as shown in Figure 9. The interest rate fixation period is short and the proportion of new mortgages with fixation periods less than three months has increased in the last year. Some households have extended their interest rate fixation periods—approximately one-fifth of households' loans have more than a two-year remaining fixed-interest period double the figure compared to a year ago. But this is likely to be unevenly distributed.



1. High costs of repaying mortgage loans early means that households have an incentive to choose shorter interest rate fixation periods for their mortgages, which means they are more sensitive to changes in interest rates. The current calculation model means that the lender receives compensation for expected credit losses during the remaining fixed interest period, even though the agreement has been terminated and no credit risk exists after the payment has taken place. This particularly disadvantages borrowers with a higher LTV or higher income uncertainty, making this group of people particularly incentivised to choose a short-term rate and increasing the distributional consequences of an increase in interest rate. As Figure 10 shows those with a higher

LTV are more sensitive to an increase in interest rate increases. Both the National Debt office and the Riksbank have supported FI's proposal that this compensation for credit risk be removed.

60. The direct impact on the banking system of an increase in interest rates is likely to be limited.

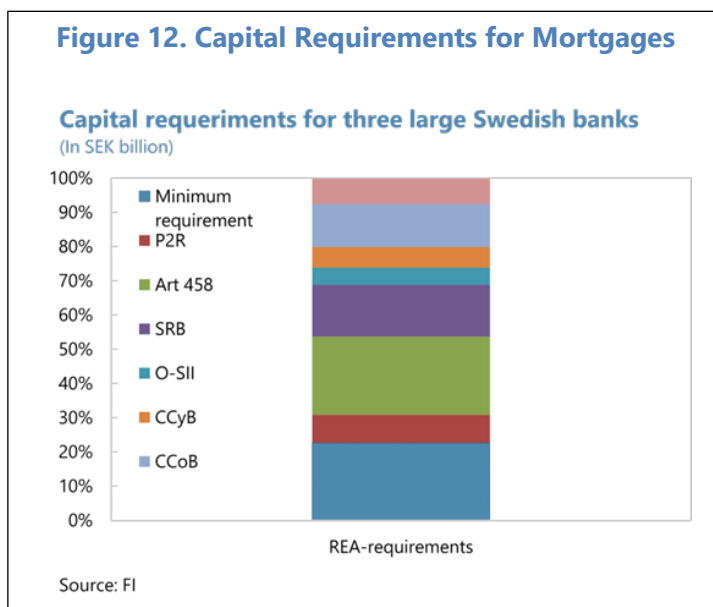
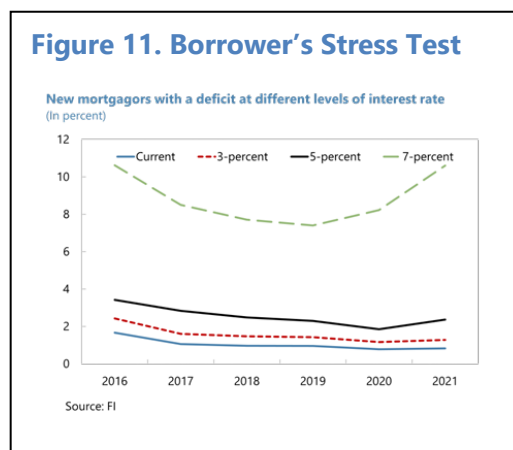
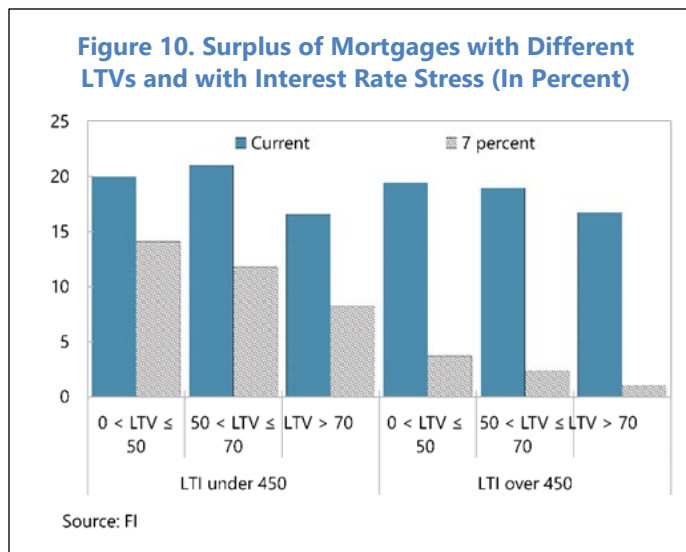
This is because banks have generally stress-tested their borrowers to an increase in interest rates of 6-7 percent. And FI's analysis suggests that even with an increase in interest rates to 5 percent, fewer than 3 percent of borrowers would have a deficit (Figure 11). Full recourse loans also mean that households are likely to be incentivised to keep paying their mortgage, meaning that defaults on mortgage loans are likely to be limited.

61. The risk weight floor for mortgages has substantially increased capital requirements for mortgages.

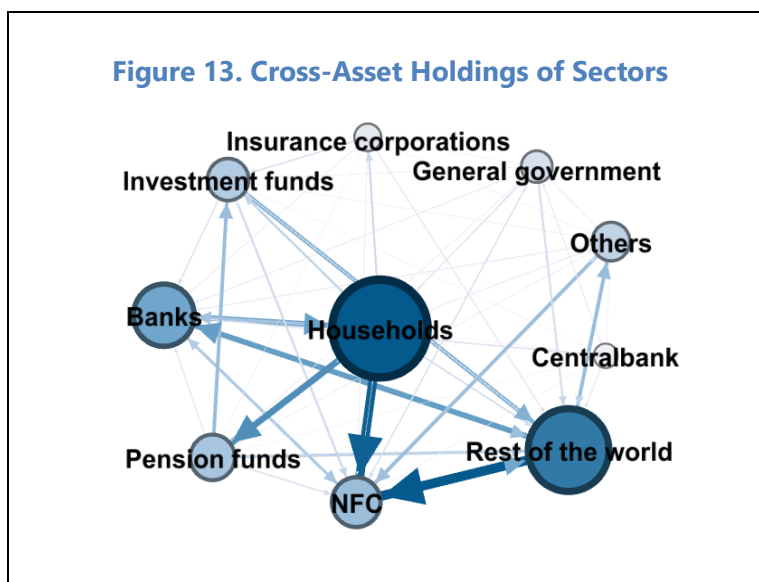
FI put in place a risk weight floor for residential mortgages in 2013 and increased it in 2014. This meant that risk weight increased from an average of about 5 to 25. This has led to banks holding considerably more capital against mortgages as shown in Figure 12 where the pale blue bar indicates the extra capital for mortgages as a result of the change in the RW floor.

62. High household debt is an imbalance that can cause wider financial system issues.

Households are highly interlinked with the rest of the financial system. Figure 13 shows cross-asset holdings of each sector. A larger bubble indicates a larger asset holding, with the household sector being large because of both high debt and high savings. If households are forced to cut



consumption or liquidate assets to maintain consumption this can have spillover effects to the rest of the financial system.

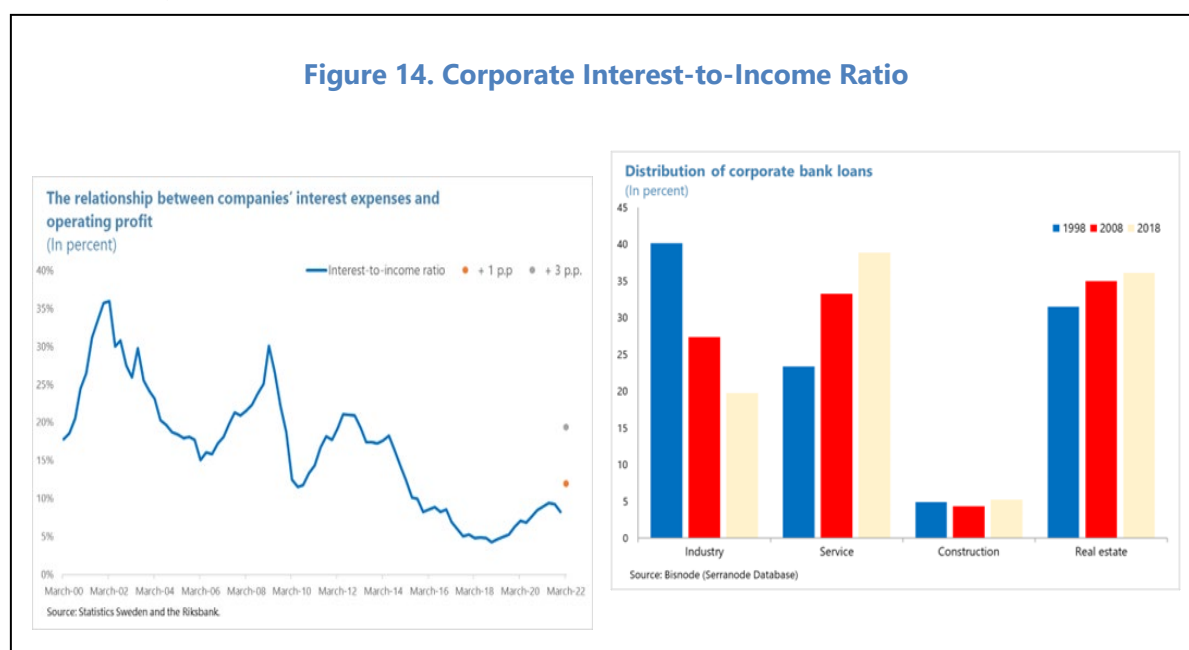


63. High levels of household indebtedness create an imbalance of risks that complicates policymaking. While most households should still be able to pay their mortgage even after a substantial increase in interest rates, they will cut back substantially on consumption. This increases the potency of monetary policy, but also complicates it when there is a trade-off between inflation and output stabilization, such as following a strong and broad-based cost-push shock, and if inflation expectations become de-anchored. In this environment and as a small open economy, Sweden will feel pressure to increase its policy rate to levels commensurate with other advanced economies, so that a depreciation of the krona does not fuel inflation. Moreover, monetary policy can have stronger distributional effects given the very high debt of some households, and thus run into political opposition. A large or rapid increase in interest rates could lead to a considerable fall in disposable income for many borrowers, particularly those with an LTI above 3, leading to a slowdown in the economy and potentially impairments in the corporate sector (see paragraph 45 for a discussion of the effects on these borrowers). This can exacerbate any existing slowdown as well as impact house prices – which could affect the covered bond market and other sources of banks’ financing – leading to a further tightening in credit conditions and economic slowdown. Highly indebted households would suffer most. Moreover, calibrating monetary policy in such an environment is more difficult as demand is both highly sensitive and non-linear due to the tail of indebted households.

64. Households likely have lower liquid asset buffers to use to maintain consumption. A combination of lower liquid assets by new purchasers at high LTIs and falling household wealth due to the fall in asset prices since the beginning of 2022 means that households are less likely to be able to use liquid assets to smooth consumption to the extent that they have been in the past. In addition, the increase in interest rates is likely to be structural rather than temporary, which limits household incentives to maintain consumption at previous levels.

65. In contrast to households, non-CRE corporates are more robust to an increase in interest rates. Companies' interest-to-income ratio is low, although it has increased slightly since 2018 (see Figure 14) as illustrated below in a scenario in which companies' average interest rates rise by 3 percentage points, while their revenues remain unchanged, this leads to an average increase in the interest-to-income ratio from just over 8 to 20 percent. This is about the same level of the interest-to-income ratio as during the euro crisis of 2012 and well below the levels seen during the global financial crisis.

66. But a cut in income from an economic downturn could lead to corporate impairments. It is difficult, as noted above, to estimate how large the cut in consumption might be, still further to estimate the ensuing fall in corporate income and how this might lead to impairments. However, Figure 14 shows how the distribution of corporate bank loans has shifted towards the service sector, which is likely to be more vulnerable to a downturn in consumption.



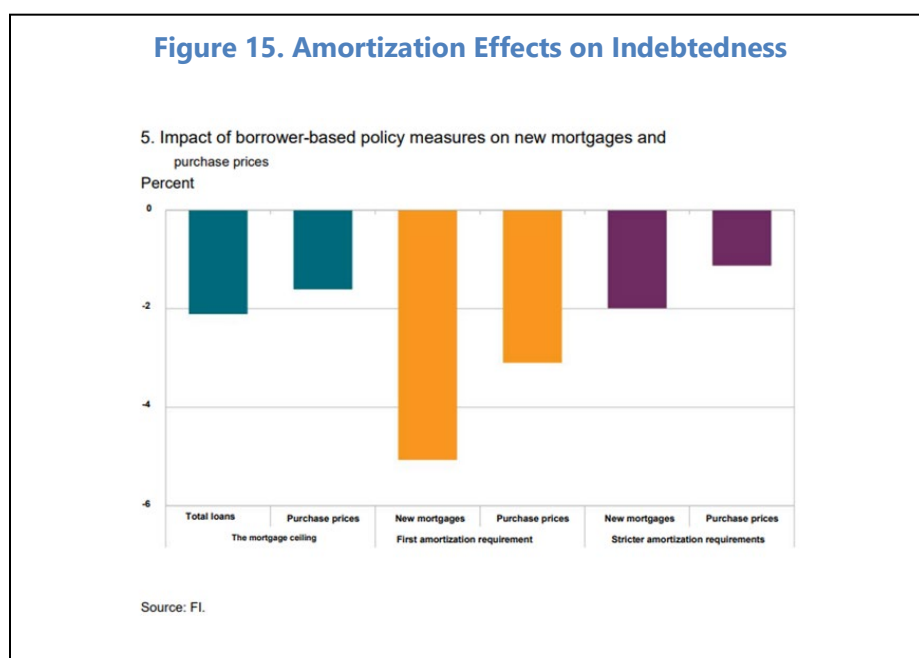
Tools: Borrower-Based Measures Should Limit the Effect of Higher Interest Rate Increases

67. FI's analysis²⁰ suggests that the LTV limit meant borrowers borrowed less than they would have done without the limit; however, the effect is small. The estimated average effect of the LTV ratio is modest at about 2 percent smaller loans. This is partly because even before the introduction few borrowers took out loans at above an 85 percent LTV. The borrowers who were affected, i.e., households that without the regulation had taken out loans with loan-to-value ratios above 85 per cent, took out 13 per-cent smaller loans. These households also bought homes that were about 10 percent cheaper. This leads to households having substantially less debt as a

²⁰ https://www.fi.se/contentassets/75646815adcd43bcbe15fed38a17bcd/fi-analys-12_eng.pdf

proportion of their income. These effects are in line with, or slightly larger than, international experience.²¹

68. The amortization requirement had a larger effect on indebtedness. FI's analysis²² suggests that new mortgage borrowers took just under 7 percent lower total mortgages than they would otherwise have done, due to the amortization requirement. Among those directly affected, the effect was estimated at 14 percent for those who needed to amortize at a rate of 2 percent and just under 9 percent for those who, as a result of the requirements, needed to amortize 1 percent.



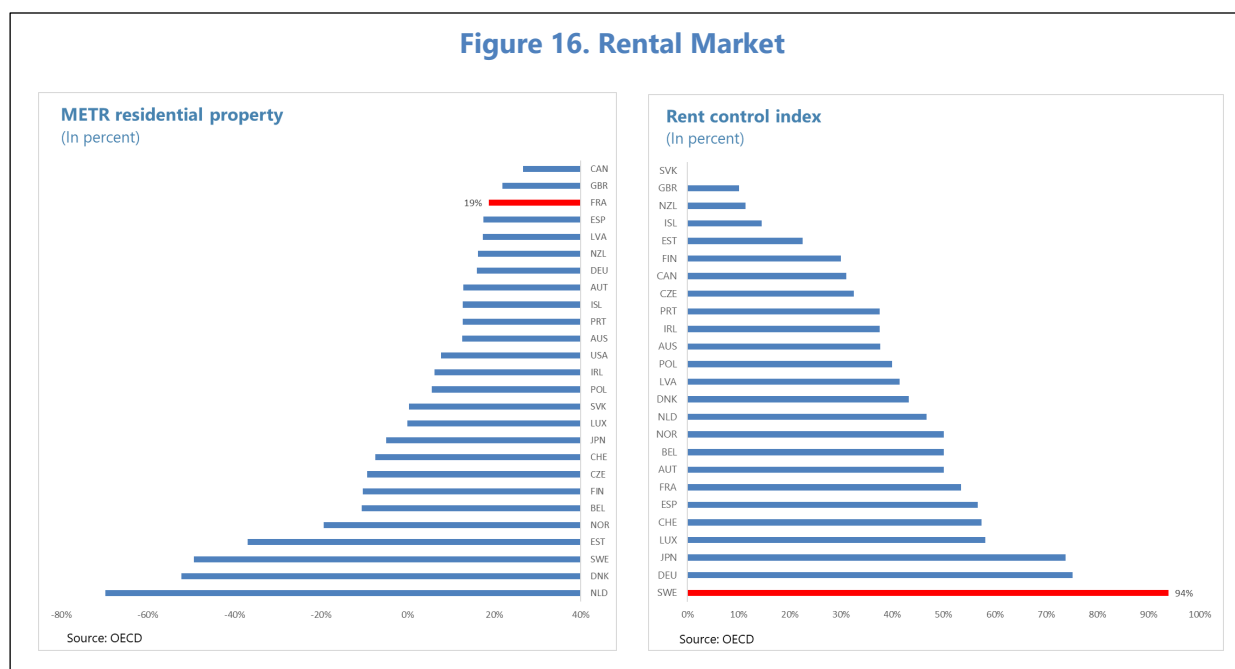
69. These measures help to prevent a decline in lending standards. The measures aimed to prevent the group of borrowers with large loans in relation to income from growing if house prices and debts were to increase rapidly. Rules such as amortization requirements and LTI limits make it harder for banks to compete with looser credit terms, which stops lending standards declining, and reduces the level of tightening in a crisis. Although there has been a large increase in households with high LTIs as a result of the low interest rate environment and the increase in house prices in Figure 15, it is smaller than it would otherwise have been.

70. However, the increase in house prices since the pandemic together with the amortization holidays means that many households are less resilient now than they were pre-pandemic. The loan-to-income ratio amounted to 201 per cent at the end of 2021, which is 13 percentage points higher than at end of 2019. Borrowers are more sensitive to an increase in interest rates than before the pandemic.

²¹ <https://www.imf.org/en/Publications/WP/Issues/2019/03/22/Digging-Deeper-Evidence-on-the-Effects-of-Macroprudential-Policies-from-a-New-Database-46658>

²² <https://www.fi.se/en/published/reports/reports/2021/overall-assessment-of-macroprudential-measures/>

71. Interest rate deductibility subsidises the cost of mortgage financing. Fixing some structural issues in the housing market would remove the burden on monetary and macroprudential policy going forward and help financial stability. Sweden's housing market is heavily skewed towards ownership rather than renting. As shown in the right graph of Figure 16, Sweden has the OECD's most regulated rental market. And only Denmark and the Netherlands have a similar level of subsidies for mortgage-financed housing as shown in the left graph of the figure which shows the marginal effective tax rate for mortgage financed housing. (A negative marginal effective tax rate implies a subsidy.) Denmark and Netherlands have similarly high debt levels to Sweden. At the moment, the Netherlands is phasing out its interest deductions and the interest tax deductibility only applies for a loan which will be fully amortized over a period of 30 years, meaning households have an incentive to amortize and the tax benefit decreases in time.

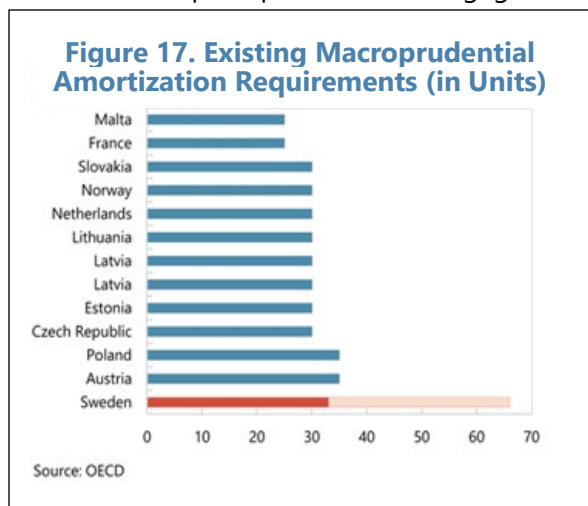


72. FI should consider whether the amortisation requirement should be higher, especially given the possibility of using amortization holidays as an automatic stabiliser. FI's assessment shows that amortization limits lead to lower indebtedness and lower housing equity withdrawals,²³ which also address another potential source of financial instability and fall in consumption—debt fuelled over-consumption.²⁴ The amortization requirements were put in place to reduce the risks mentioned above but could go further. Amortization requirements are currently 1 percent per year for an LTV above 50 and 2 percent for an LTV above 70 percent. In addition, if the LTI is above 450 that borrower has to amortize an extra percent each year. These rates are somewhat low compared to international lending standards, where several countries impose amortisation

²³ [FI Analysis 20: Fewer home equity withdrawals after amortisation requirements | Finansinspektionen](#)

²⁴ See for example [Housing Prices, Household Debt, and Macroeconomic Risk: Problems of Macroprudential Policy I | Lars E.O. Svensson \(larseosvensson.se\)](#)

requirements that mean mortgages are either fully or entirely amortised by retirement age. But are particularly lower for low LTV and LTI borrowers where the need to reduce indebtedness is less acute. Appropriate amortization rates depend on many structural factors, including expected income at retirement, and even introducing an amortization requirement was a considerable cultural change in the Swedish mortgage market. Figure 17 shows the maximum implied period of a mortgage loan for countries which have imposed a macroprudential regulation within the EU. Sweden has a significantly lower amortization rate than other EU countries. Households are effectively renting, but from banks rather than landlords. The use of amortisation holidays when individuals experience negative shocks can act as a committed savings device and act an automatic consumption stabiliser.



73. FI should consider introducing a new regulatory or supervisory measure: an interest rate stress test that banks should apply for short-term variable rate mortgages based on interest and amortization payment as a proportion of income. This would help guard against a recent decline in lending standards based on the interest rate stress test which banks apply (where the market standard has declined from 7 percent to around 6.0 percent even as expectations of an increase in policy rates is increasing). Using the test as a proportion of income would guard against an increase in financial imbalances.

74. The government should commission an independent study into the distortions from the interest tax deductibility so that it is clear where the costs and benefits lie. At around -30 percent, Sweden's marginal effective tax rate for owner occupied debt-financed housing is the third lowest in the OECD. The tax deductibility of interest payments will insulate households against an increase in interest rates in the short term, but in the long-term, it encourages higher indebtedness and higher house prices, with negative ramifications for financial stability. The competitive structure of the mortgage market will be a determining factor of to whom the benefits accrue—to households or whether it is passed through to the banks. The government should consider asking the competition authority to co-author the report.

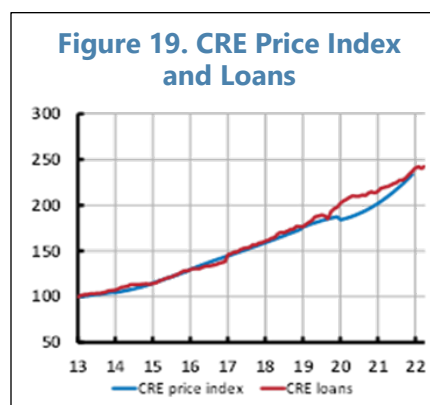
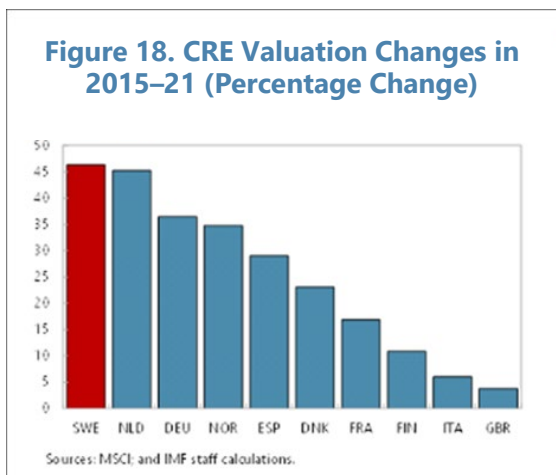
B. Commercial Real Estate

75. Commercial real estate firms raise substantial risks to the financial system due to funding risks as well as broader spillover effects to the real economy. Historically, problems that have arisen on the CRE market have either triggered or amplified financial crises.²⁵ One reason for this is that the CRE sector is sensitive to financial cycles, but also because the CRE market is large, primarily debt-financed and thus strongly connected to the financial system. This section discusses

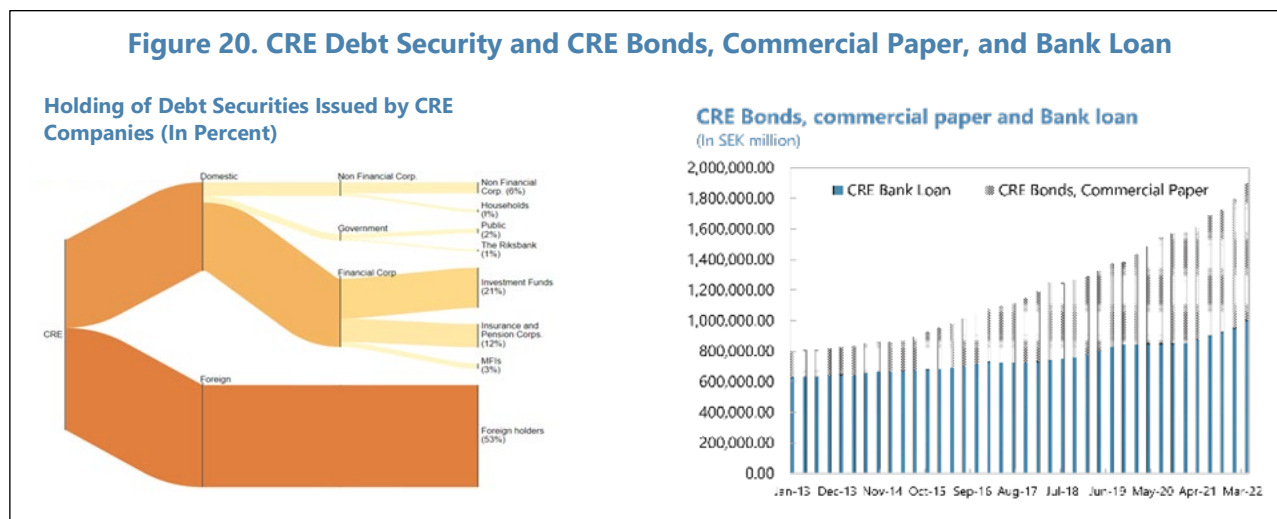
²⁵ See for example https://www.esrb.europa.eu/pub/pdf/other/2015-12-28_ESRB_report_on_commercial_real_estate_and_financial_stability.pdf

how an initial shock might propagate through the financial system, as the shock spreads from large firms which raise bond finance, with spillovers to banks, smaller CRE firms and other real economy firms and how some structural features of the Swedish financial system might amplify the original shock.

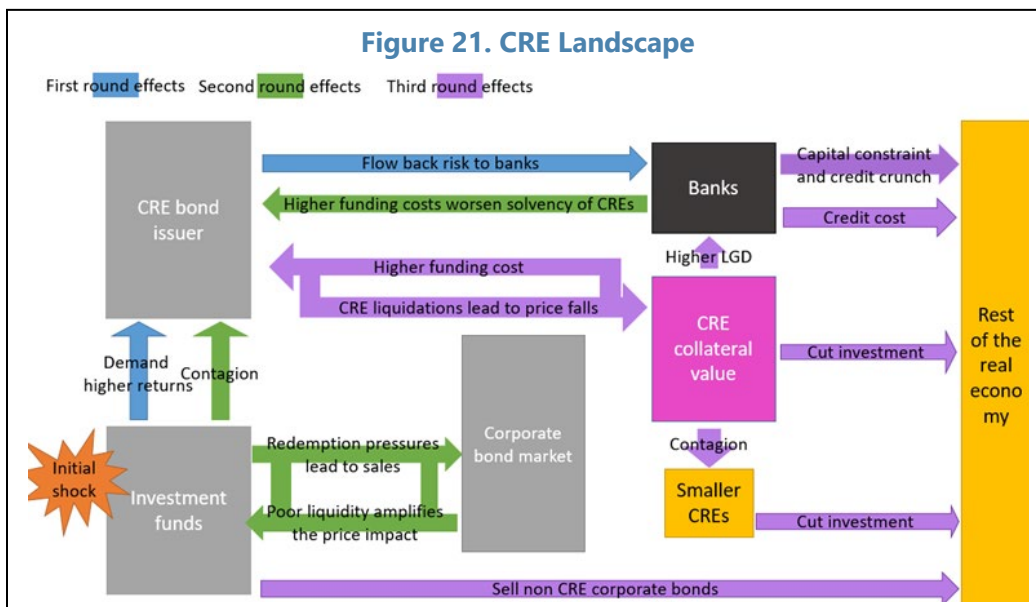
76. Sweden has experienced some of the largest price increases in commercial real estate in the EU in recent years (Figure 18) and this price increase has been on the back of an increase in debt for CRE companies (Figure 19). Between 2009 and 2021, net debt-to-net operating income grew from a ratio of around 10 to 15. In the past, CRE in Sweden has been considered to be a safe asset and a hedge against inflation as rents, and therefore incomes, are contractually linked to inflation. But there is currently some uncertainty about commercial real estate firms' future income. During the pandemic, with its induced hybrid working from home model, vacancy rates rose sharply. While vacancy rates recently show clear signs of levelling out, renting income may still come under stress from lower demand (work from home trend continues, general economic downturn). This, combined with the office yield trend, which was already declining, is challenging CRE firms' credit rating and ability to roll over their existing debt securities.



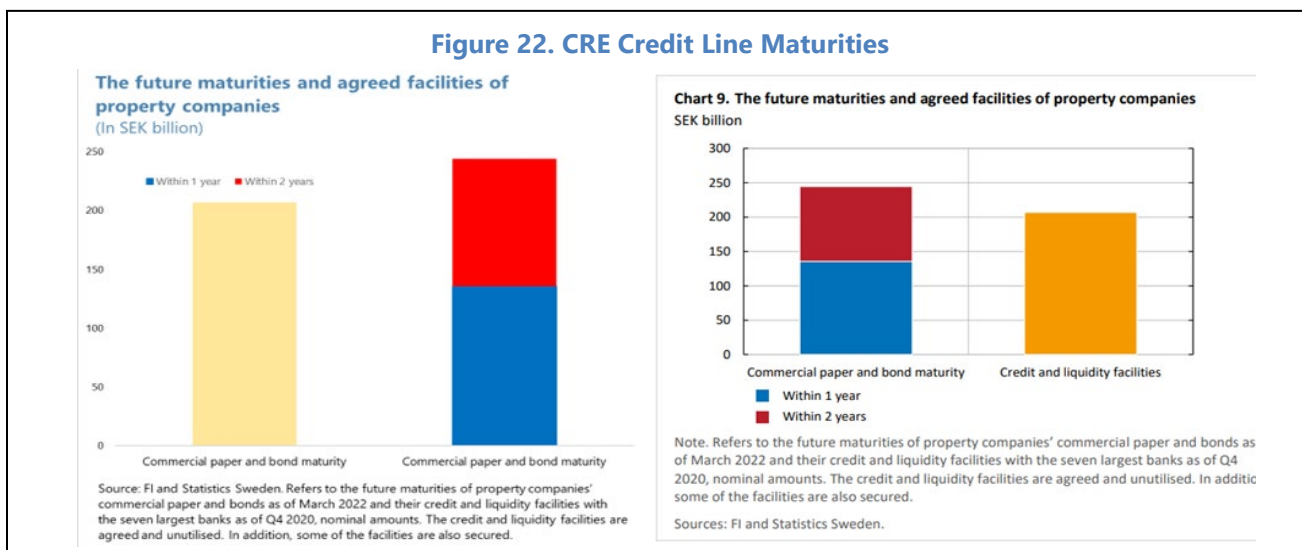
77. In recent years CRE companies have made increasing use of market-based finance. As shown in Figure 20, the share of market-based finance has grown considerably over the last decade and now consists of around half the funding for the sector overall.



78. But this leaves CREs vulnerable to a change in market sentiment that could drastically increase their funding costs, or even cut off funding all together. There is a risk that market-based funding could dry up (the blue arrow from investment funds to CRE bond issuers). This could be for a number of reasons such as an increase in policy rates, a change in risk sentiment, an economic slowdown, lower real estate prices, or concerns that CRE has hit a leverage limit (the initial shock in orange).



79. To repay these bonds at maturity, or continue their operations, the firms may need to borrow more from banks (the blue flowback risk arrow). It is uncertain whether banks would lend to these firms. The stress test undertaken in the Systemic Risk TN shows that, if willing, banks would be able to absorb a large share of CRE market funding. Even if CRE's do not have immediately maturing debt these firms will have an incentive to draw down on bank credit lines even before conditions deteriorate. Currently commercial real estate firms have just under SEK 190 billion in



contingent credit lines with banks which is enough to sustain funding for 2 years as shown in Figure 22.

80. Liquidity premia on funding costs will undermine CRE profits and lead to further credit risk premia, amplifying the original shock. (The green arrow from banks to CRE bond issuers in Figure 21). Funding from banks rather than financial markets is likely to be significantly more expensive than financial markets—holding all other things equal—due to liquidity premia and the need to hold sufficient capital. On top of this the global shift in monetary policy and changes in risk sentiment means that CRE funding is likely to be significantly more expensive. CRE's are highly sensitive to interest rates and this increase in funding cost is likely to considerably deteriorate their solvency position. This means that a liquidity shock can turn into a solvency shock, or the original solvency shock is worsened.

81. Some CRE firms may have to shed assets to cover their funding shortfall or declare insolvency. Liquidation of assets could lower property values across commercial real estate. This can then affect the value of the smaller CRE firms which were not borrowing from the bond market, as well as worsening the liquidity and solvency position of the firms which were still borrowing from the bond market. This can initiate a downward feedback spiral (the purple arrows from CRE bond issuers to CRE prices and vice versa) and lead to fire-sale prices. To the extent that the real estate itself is used as collateral both for banks in the covered bond market and for firms themselves—this can lead to a worsening in borrowing conditions, and also a fall in credit provision.

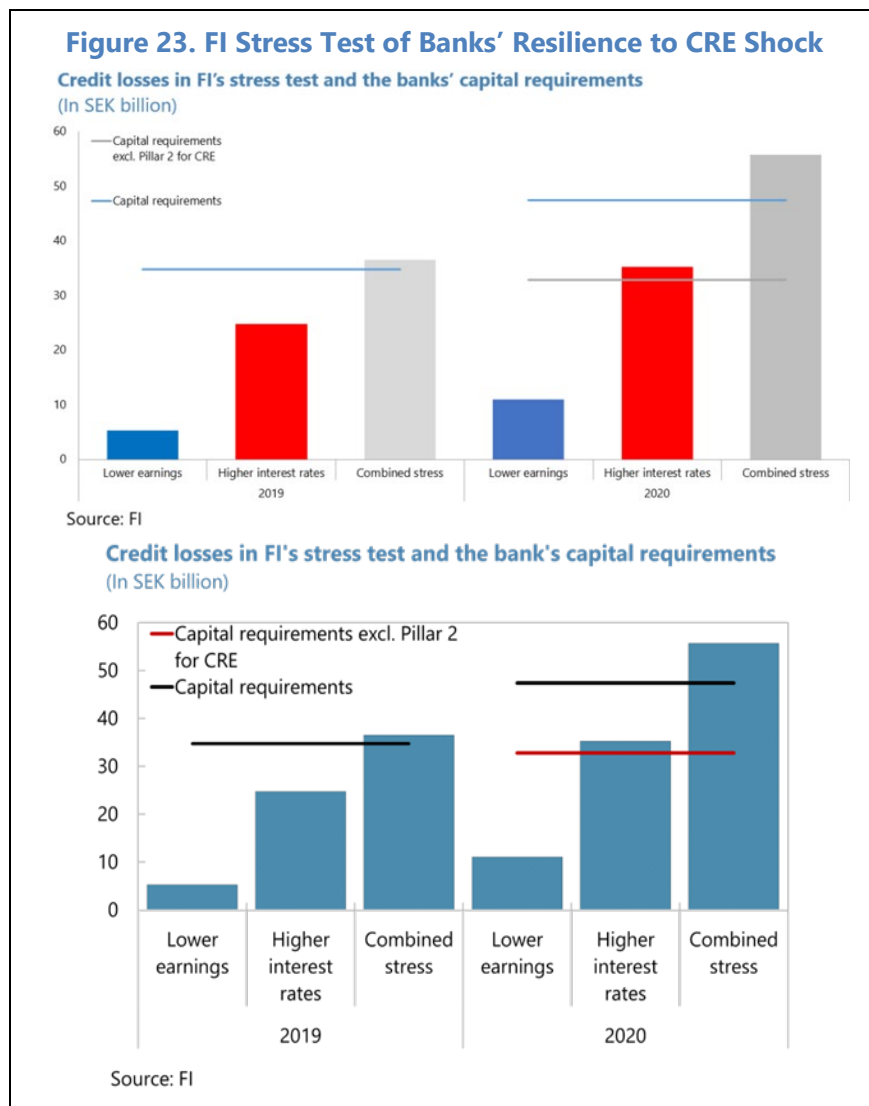
82. Banks current capital base for CRE exposures appear to insufficient with respect to a CRE shock which involves an increase in funding costs for CRE firms. The major banks also hold large and growing exposures to the CRE sector, which represents on average 15 percent of the major Swedish banks' lending to the general public. Figure 23 below which comes from FI's own stress test of banks' resilience to a commercial real estate shock using micro data.²⁶ The test includes lower earnings (from commercial premises by 25 percent), a shock of higher financing costs (by 3 percentage points), and a stress which combines the two. Given the increase in funding rates seen since the beginning of 2022, a 3-percentage point increase does not seem unlikely. This is in line with the solvency stress test results undertaken in the Systemic Risk Assessment Technical Notes as part of this FSAP which found there were high loss rates on the CRE exposures, suggesting that the current capital base for these exposures could be insufficient in case of a sector-wide distress for CREs.

84. This is mainly driven by CRE firms being unable to pay a higher interest rate. While around two thirds of CRE firms' bank loans are raised at variable rates, firms use interest rate derivatives to hedge the shock. FI estimate that around 60 per-cent of all property firms' interest costs will be impacted by a change in the interest rate. FI's analysis assumes that CRE firms' average

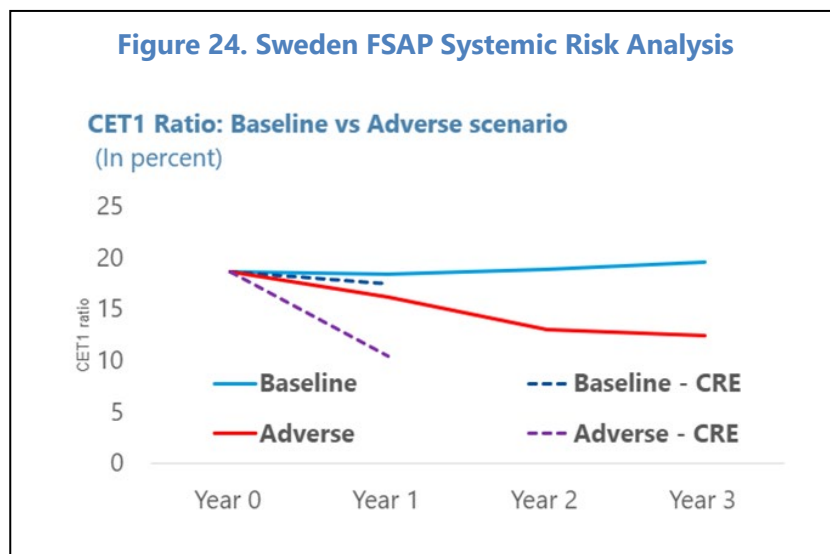
²⁶ The methodology is outlined in [fi-analys-24-stresstest-bank-lan-fastighetsftg-eng.pdf](#)

maturity for bank loans is on average just over two years and so some firms will have to refinance in that period.

85. If banks also took on credit risk from extending credit lines to CREs then their capital would be impacted further. Figure 24 which has been taken from the Systemic Risk Analysis part of the FSAP shows the effect of the scenario in which banks begin with much higher exposures to CREs. Even in the first year of the scenario the loss to capital is more severe than the loss in the whole three years of the adverse scenario. Taking on this contingent funding to CREs is therefore likely to significantly impair banks’ capital ratios.



86. Hits on bank capital due to provisioning charges and/or outright losses could crowd out credit to the economy. (The purple arrow from banks to the real economy) If banks are undercapitalised and also facing funding pressures as they have to offer more collateral in the covered bond market, the most likely course of action to preserve their capital positions is to cut back lending to the real economy.



A Number of Structural Issues Could Amplify the Existing Shock or Lead It to Spillover from One Sector to Another

87. Concentration among CRE companies could lead to contagion effects among CREs. The market is highly concentrated with a large degree of cross-ownership of the bond-market issuing firms meaning shocks can quickly become systemic. This is illustrated in figure 25, where cross-ownership can clearly be seen, together with the fact that there are only 12 ultimate owners. On the one hand, this means that other firms within the group could support each other if there is an idiosyncratic shock; on the other this means that any shock is more likely to become systemic. The trend towards cross-ownership and consolidation through the sale and placement of properties in joint ventures, means that firms have revalued their properties to reflect the latest values without any significant change in the properties or their earning capacity.

transparency makes it harder to distinguish good firms from bad firms leading funding problems at bad firms to undermine otherwise solvent firms. Poor disclosure makes it harder for investors to accurately assess the credit risk of firms and increases asymmetric information. In a downturn the impossibility of making a credit assessment, this can mean that all firms are priced the same—meaning that there is contagion from bad firms to good firms (the green arrow from investment funds to CRE bond issuers in Figure 21). This can lead to solvency problems at firms which would have been solvent in the presence of better disclosure.

90. Swedish CRE bonds constitute 50 percent of the corporate bond market. Redemption requests could impact prices of securities more broadly leading to spillovers to the wider economy. (The purple arrow from investment funds to the real economy in Figure 21). If commercial real estate prices or sentiment declines, investment funds may face redemption pressure from end investors. This could lead following a drop in performance, which may lead to fire sales of commercial real estate bonds and also sales of corporate bonds in the non-CRE sector. This may be mitigated by the fact that investment funds also hold a lot of foreign assets which may not be impacted by the price falls.

C. Recommendations

91. The authorities should consider taking actions in a number of different places in the financial system, in part to attenuate the amplification mechanisms noted above. No one action will be a remedy by itself; but, by making each part of the system more resilient, a number of feedback loops and spillovers can be reduced.

92. The authorities should consider increasing capital requirements for banks. FI should consider further increasing capital requirements against commercial real estate as the concentration, structural issues and feedback loops raised in this section suggest that the capital required by banks on the basis of the micro-prudential stress tests is insufficient (see above and the Systemic Risk Assessment Technical Note of this FSAP). Ideally, these feedback loops will one day be integrated in the stress-testing model. It is obviously challenging to quantify the size of these issues on potential credit losses and so FI should take a flexible approach when considering where in the capital stack they might wish to add additional capital or taking a more intensive supervisory approach.

93. FI should adjust their solvency stress tests or supervisory intelligence to examine the impact on banks if all contingent credit lines were drawn down in a short period of time. As noted above firms may potentially draw down on credit lines before they need the funding. Any stress test should include a drawdown of funds early in the stress and then including subjecting that lending to the subsequent stress.

94. Accessing an adequate and comprehensive set of liquidity management tools (LMTs) would allow a more effective management of the liquidity mismatch in times of stress. Investment funds with profiles similar to those identified in the stress analysis section of the FSAP and their asset managers should collectively move to redemption terms that are more closely

aligned with the liquidity profile of their portfolio. This recommendation was also made in the Systemic Risk Assessment TN of this FSAP.

95. Improvements to the liquidity of the corporate bond market are needed – in particular the issuance of a benchmark bond and increased standardization will reduce the price impact of distressed sales. Both the Riksbank²⁸ and FI²⁹ have been pushing for reforms to the corporate bond market. Erik Thedéen, Stefan Ingves and Hans Lindblad as heads of the authorities in charge of financial stability have jointly encouraged Swedish firms that are issuing bonds in SEK to start issuing bonds in accordance with the benchmark standard. They have also supported industry organisations that are considering recommending to their members to issue in accordance with the benchmark standard when possible and appropriate. While this will not fix all the issues in the corporate bond market, if successful it will lead to improvements in the bond market and increased demand, leading to lower funding costs, even in good times and more resilience in times of stress.

96. Sweden does not have a large proportion of dedicated property investment funds which makes a targeted intervention to investors difficult. FI also does not have powers to make a recommendation on fund behaviour on their investments in CRE bonds. Even though CRE bonds are the majority of the corporate bond market meaning that a wider recommendation might be appropriate, the large proportion of foreign investment funds might mean that there are leakages and that CRE firm leverage is not constrained. However, FI should consider the extent to which it would be able to impose restrictions or guidance on the type of investments that funds invest in.

97. Short of introducing new borrower-based measures to curb market funding, CRE firms should be made to improve their disclosures, including on contingency plans when market funding dries up. Such disclosure should be included in-Bond issuance template, and encouraged by the authorities, potentially the securities market association. This will help investors assess the firm and improve market discipline in the primary issuance market. Firms with more viable contingent funding plans, or collateral whose valuation is less dependent on recent upturns in prices, will be able to fund themselves at a lower cost. Having better disclosure will also ensure investors can distinguish between more solvent and less solvent firms reducing contagion across the sector.

98. The authorities should plan now for what a potential crisis intervention might be; the intervention should be designed to limit moral hazard. Plans to restore market functioning should aim to incentivize participants to re-enter the market, while considering the costs and risks to the central bank and concerns about moral hazard. Any scheme should be transparent; ensure that equity holders have the chance to recapitalise the firm but are wiped out should the firm be insolvent; and bond holders take losses for example by write-downs or equity conversions. Ideally, interventions would be targeted to where the negative links to the real economy might be

²⁸ <https://www.riksbank.se/globalassets/media/rapporter/riksbanksstudie/engelska/2021/towards-a-better-functioning-corporate-bond-market.pdf>

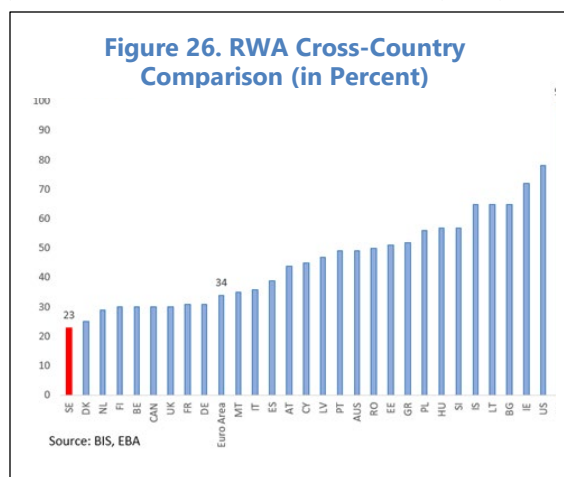
²⁹ <https://www.fi.se/en/published/reports/stability-report/2021/stability-in-the-financial-system-20212/>

strongest. In theory, if assets are being sold at fire-sale prices rather than fundamentals, any agent who is able to hold the assets to maturity should not make a loss. Any plan should thus require that assets are purchased at a fair market price. Fully or partly state-owned asset management companies have been a key facet of public support in past crises (for example, the Nordic and Asian crises), and were used in a few cases during the global financial crisis (for example, Sareb in Spain, NAMA in Ireland, Maiden Lane in the US). But establishing asset management companies may entail significant upfront costs to the government as well as fiscal risks and cases where centralized asset management companies contributed to recovery without incurring substantial costs to the government are rare.³⁰

D. Resilience to a Broad Set of Risks

99. The above sections covered the two main vulnerabilities for the financial system following the emergence from the pandemic. But shocks can emerge from many different channels including outside the financial system. Recent examples of this include the global COVID-19 crisis and the disruption to energy markets from Russia’s invasion of Ukraine. And the authorities need to ensure that the financial system is sufficiently resilient to a wide range of shocks; and that the impact on the real economy is limited.

100. Despite a shrinking role in the financial system, banks still provide the majority of funding to the real economy and ensuring their resilience remains the key to ensuring any financial stability has limited negative impact on the real economy. Banks’ capital ratios continue to be affected by low RWAs especially due to low risk weights applied on mortgage loans and CRE exposures. To a large extent, this is explained by the fact that Swedish Banks’ have a high portion of mortgage loans on their balance sheet. As a result, banks’ loss absorption could be challenging if a scenario of widespread defaults materializes, for example, in case of a large macro financial shock.



101. FI has considerably increased capital requirements to take into account the concentrated level of the banking system. The large three banks each have a systemic risk buffer of 3 percent. The purpose of the systemic risk buffer is to mitigate and manage the risk of shocks that may have serious negative effects on the financial system and the real economy of a member state of the European Union. This includes risks that arise from structure of the financial system but may also be cyclical. Calibrating the level of capital needed to respond to these spillover risks is challenging. If FI makes the assessment that the total systemic risk buffer should exceed three per

³⁰ [Managing Systemic Banking Crises: New Lessons and Lessons Relearned \(imf.org\)](https://www.imf.org/publications/ft/eng/2015/01/01/managing-systemic-banking-crises-new-lessons-and-lessons-relearned)

cent, but not five per cent, FI needs to request an opinion from the European Commission. FI is able to establish a systemic risk buffer of over five per cent only after authorization from the European Commission. FI has also put in place an O-SII buffer of 1 percent for these systemically important institutions, including Nordea's Swedish subsidiary. These buffers are additive which was a change introduced when the banking package was implemented.

102. Combining capital requirements that are broad such as the Systemic Risk Buffer with FI's risk weight floors considerably amplifies the benefits of each measure. This is a benefit of including the microprudential and macroprudential authority in one institution. Using broad capital requirements is not a substitute for taking action on the sector as a whole. Broad based capital requirements are there to capture spillovers, interconnections and structural features of the financial system. If FI had not had the power to address low risk weights, which are some of the lowest in the world, required buffer rates would have been much higher—the impact on total capital requirements of the residential real estate risk weight floor is about equivalent to a 6 percent CCyB or a 4 percent SRB taking it to 7 percent in total; in addition to not being able to appropriately target the risks. This would have made it challenging to comply with EU legislation.

103. Ensuring adequate releasable or usable capital buffers is key to ensuring financial stability. The CCyB is a time-varying capital buffer, which is set based on the relevant national authority's judgement of system-wide risks.

104. The CCyB aims to maintain capital in the banking sector for banks to draw on during an economic downturn, supporting the supply of credit and helping to ensure banks do not amplify the downturn.³¹ During the pandemic FI cut the CCyB by 2.5 percentage points and set it at 0 percent.

105. In 2021 FI outlined a countercyclical capital buffer (CCyB) policy that includes a positive neutral rate of 2 percent in standard times. FI has stated that this was motivated by 1) the risk that systemic risks and financial imbalances cannot be identified in a timely manner; 2) the twelve-month delay from announcement for the buffer rate to be in force; and 3) early activation and gradual increases make it easier for banks to adjust for example by retaining profit rather than reducing their lending. FI announced an initial increase towards the target neutral rate, with the standard 12-month lag, in September 2021, setting the buffer rate at 1 percent. It then raised it to 2 percent in June 2022, again with the standard 12-month lag, to ensure that banks would have time to adjust to the new rate, rather than setting a 2 percent rate immediately.

106. While the original Basel guidance was for a 0 percent rate unless risks are elevated several countries have adopted a positive neutral rate. Since the pandemic BCBS three countries

³¹ Effectiveness is still being evaluated but there is tentative evidence to suggest CCyB releases helped lending: Basel Committee on Banking Supervision: Early lessons from the Covid-19 pandemic on the Basel reforms (section 3.2. in particular) <https://www.bis.org/bcbs/publ/d521.pdf> ; [The Fed - Un-used Bank Capital Buffers and Credit Supply Shocks at SMEs during the Pandemic \(federalreserve.gov\)](#) ; [Caution: do not cross! Capital buffers and lending in Covid-19 times \(europa.eu\)](#)

have announced policy change to set a positive neutral rate: Australia³², Sweden,³³ Netherlands³⁴ while the UK had a positive neutral rate before the pandemic. Several countries responded in a Basel Report on the Covid pandemic that a positive CCyB rate would have been helpful in the pandemic and they were considering changing their policies to reflect this. Outside of the BCBS Lithuania and the Czech Republic also set a positive neutral rate and Canada has a positive neutral rate for its Domestic Stability Buffer—set similarly to a CCyB.

107. The authorities should consider what capital buffers (including the CCyB) might be needed when risks are more elevated. The 2 percent rate is to cover a standard risk environment, and the authorities have not yet come to a firm position on the level of capital that would be required in a more elevated environment or what level of releasable capital would be sufficient to ensure resilience to a macro-financial shock of similar magnitude to the global financial crisis.

³² <https://www.apra.gov.au/sites/default/files/2021-11/Informationpercent%20paperpercent%20-percent%20Anpercent%20Unquestionablypercent%20Strongpercent%20Frameworkpercent%20forpercent%20Bankpercent%20Capital.pdf>

³³ <https://www.fi.se/en/published/press-releases/2021/fis-approach-to-setting-the-countercyclical-capital-buffer/>

³⁴ <https://www.dnb.nl/en/actueel/dnb/dnbulletin-2020/dnb-temporarily-lowers-bank-buffer-requirements-to-support-lending/>