



# SWEDEN

## FINANCIAL SECTOR ASSESSMENT PROGRAM

### TECHNICAL NOTE—SYSTEMIC RISK OVERSIGHT FRAMEWORK AND MANAGEMENT

October 2017

This Technical Note on Systemic Risk Oversight Framework and Management for Sweden 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 in November 2016.

Copies of this report are available to the public from

International Monetary Fund • Publication Services  
PO Box 92780 • Washington, D.C. 20090  
Telephone: (202) 623-7430 • Fax: (202) 623-7201  
E-mail: [publications@imf.org](mailto:publications@imf.org) Web: <http://www.imf.org>  
Price: \$18.00 per printed copy

**International Monetary Fund**  
**Washington, D.C.**



# SWEDEN

## FINANCIAL SECTOR ASSESSMENT PROGRAM

September 2017

# TECHNICAL NOTE

## SYSTEMIC RISK OVERSIGHT FRAMEWORK AND MANAGEMENT

Prepared by  
**Monetary and Capital Markets  
Department**

This Technical Note was prepared in the context of the Financial Sector Assessment Program in Sweden, led by Martin Čihák. It contains technical analysis and detailed information underpinning the FSAP findings and recommendations. Further information on the FSAP program can be found at <http://www.imf.org/external/np/fsap/fssa.aspx>

# CONTENTS

<b>Glossary</b>	3
<b>EXECUTIVE SUMMARY</b>	4
<b>INTRODUCTION</b>	6
<b>SYSTEMIC RISK OVERSIGHT FRAMEWORK</b>	7
A. Overview	7
B. Issues	8
C. Assessment and Recommendations	10
<b>SYSTEMIC RISK MANAGEMENT</b>	14
A. Overview	14
B. Issues	14
C. Assessment and Recommendations	18
<b>FIGURES</b>	
1. Systemic Risk Oversight Framework	7
2. Distribution of Debt-to-Income Ratios for New Mortgage Borrowers (Share of)	15
3. Swedish Housing Prices in Relation to Disposable Income Per Capita	16
4. Impacts from a Permanent Reduction in LTV ratio (L) and Amortization Period (R)	21
5. Welfare: Interaction Between Amortization Requirements and LTV Ratios	21
<b>TABLES</b>	
1. Recommendations	5
2. Illustrative Macroprudential Policy Institutional Framework Models	11
<b>ANNEXES</b>	
I. Follow-up on Key Systemic Risk Oversight Recommendations of the 2011 FSAP	24
II. Delegation of Authority for Macroprudential Policy-Making in Selected Peer Countries	26
III. Effects of Measures to Stem Household DTI Ratio Increases	31

## Glossary

BIS	Bank for International Settlements
DTI	Debt-to-disposable income
FI	Finansinspektionen
FSB	Financial Stability Board
FSC	Financial Stability Council
FSSA	Financial System Stability Assessment
FSAP	Financial Sector Assessment Program
G-SIB	Globally Systemically Important Bank
IMF	International Monetary Fund
LOLR	Lender of Last Resort
LTV	Loan-to-value ratio
MOF	Ministry of Finance
MoU	Memorandum of Understanding
NDO	National Debt Office
NSFR	Net Stable Funding Ratio
NPL	Non-Performing Loan
RB	Riksbank
SMEs	Small- and medium-sized enterprises

## EXECUTIVE SUMMARY

**A rising share of highly indebted households and high housing prices pose serious macrofinancial risks.** The impact of a house price decline in Sweden, with an associated loss of confidence in housing collateral, could be amplified by Swedish banks' reliance on wholesale funding. Given the interconnectedness within the Nordic-Baltic financial systems such a shock could have significant spillover effects across the region.

**Higher bank capital is not sufficient to mitigate risks.** Households should be made more resilient in the short term by the adoption of a maximum debt-to-income ratio; strong political action should be addressed to remove obstacles to increasing housing supply while macroprudential policies should be used to moderate housing demand during the adjustment period; removing tax benefits associated with real estate holdings and funding is also needed to reduce imbalances.

**Risks also arise from FI's thin legal foundation in relation to certain macroprudential measures, which has prevented FI from being more proactive in adopting some measures and issuing supervisory regulations.** This situation has been compounded with FI's under-resourcing, which reduces its ability to identify vulnerabilities and slows down its reaction time.

**To promote accountability, the law should clarify the allocation of macroprudential powers between government and FI, and grant FI clear legal mandate for macroprudential policy, with full operational independence, including the ability to adopt and change instruments and their calibration.** The FSC, or a similar body excluding the Ministry of Finance, should be provided with a statutory basis with power to issue recommendations, preferably with a 'comply or explain' attribute. The law should also ensure that the Riksbank's expertise in financial stability analysis finds a clear institutional role in the oversight of systemic risk.

**If the high house prices were to fall, the corrections in the financial system could be damaging.** An adequate calibration of mortgage LTV and the introduction of a maximum debt-to-income ratio can help to contain the feedback between credit and asset prices and buttress household resilience. The new amortization requirements are a welcome step whose effectiveness has to be monitored.

**Table 1 summarizes the recommendations for the systemic risk oversight and management.**

**Table 1. Sweden: Recommendations**

<b>Systemic risk oversight framework</b>	<b>Timing</b>	<b>Authority</b>	<b>Paragraph</b>
The financial stability mandate of the government and FI should be clarified in the law	I	MoF	17
A broad macroprudential mandate and set of macroprudential instruments to be given to FI by a law.	I	MoF	17
FI should increase the resources dedicated to systemic risk oversight and to cross-institutions supervisory issues.	I	FI, MoF	17
Provide the FSC, or a similar body, a statutory basis with power to issue recommendations, preferably with a 'comply or explain' attribute.	MT	MoF	22
The preparatory group of the FSC should be upgraded into a Systemic Risk Committee chaired by the Riksbank	MT	MoF	22
The law should ensure that the Riksbank finds a clear institutional role in the oversight of systemic risk.	MT	MoF	23
The FSC should issue an annual assessment on financial stability risks with a work plan	NT	MoF, FI, NDO, RB	25
The FSC Secretariat should be staffed with more economists.	NT	MoF, FI, NDO, RB	25
<b>Systemic risk oversight management</b>			
FI should be granted the ability to change the loan-to-value ratio of mortgages for the purpose of macroeconomic stability.	NT	MoF	40
Introduce a debt-to-income regulation	NT	FI, MoF	42
Close monitoring of the new amortization requirements and a yearly reassessment of their calibration.	I	FI	45
Lowering mortgage tax deductibility and revisiting the property tax ceilings	NT	MoF	49
Removal of constrains to housing supply	NT	MoF	49
Including corporate risks in FI's risk analysis	I	FI	50
Enhancing financial stability frameworks within the Nordic-Baltic region to monitor extant risks.	NT	FI, RB	52
Measures to reduce banks' cross holdings of covered bonds as well as closer monitoring of these exposures.	NT	FI	53
* C = continuous; I (immediate) = within one year; NT (near term) = 1–3 years; MT (medium term) = 3–5 years			

## INTRODUCTION<sup>1</sup>

- 1. This note analyzes the systemic risk oversight framework in Sweden.** The note contains an assessment of the systemic risk oversight framework and of the tools employed to address systemic vulnerabilities by relevant Swedish authorities. Section I discusses the institutional framework, the allocation of powers and the trade-offs involved. Section II covers the instruments deployed and deployable to mitigate systemic risk.
- 2. The note acknowledges an improvement of the framework since last FSAP.** Following the 2011 Sweden FSAP recommendations, the authorities have set up a high-level Financial Stability Council (FSC) in 2013 chaired by the Minister for Financial Markets (which in turn is a minister within the Ministry of Finance). The FSC also comprises the Riksbank Governor, FI Director General, and the National Debt Office Director General. It is a forum for discussing financial stability issues and coordinating actions in case of a crisis, but has not been allocated any decision-making powers.
- 3. However, international consensus on the desirable features of a financial stability framework has since improved, calling for an upgrade of the Sweden framework.** Since 2011 the financial stability advice of the IMF, building on international experience, has developed implying the necessity of an upgrade of the Swedish systemic risk framework. The IMF Staff Guidance Note on Macroprudential Policy (IMF, 2014), acknowledges that there is no “one-size-fits all” approach for countries’ frameworks. Notwithstanding this, there is a global consensus on the conclusion that effective macroprudential policy is well-served by providing the relevant authorities with a clear mandate that sets out well-defined objectives as well as adequate powers, matched with strong accountability.<sup>2</sup>
- 4. Sweden’s systemic risk oversight framework has to foster a more effective and active macroprudential policy approach.** An improvement in the effectiveness of Sweden’s systemic risk oversight framework is warranted, to fully reach the levels of willingness, ability to act and effective cooperation in systemic risk identification and mitigation among the systemic risk overseers apt to match the challenges posed by its very large and complex financial system. Of course, institutional arrangements need to suit Sweden-specific circumstances and institutional background.
- 5. Rising vulnerabilities also warrant swift action.** Vulnerabilities in the economy continued to build up systemic risk as house prices have risen to high levels, even if overvaluation is estimated to be modest, and household indebtedness continues to rise, warranting a short-term response. In the event of a sharp correction the financial system could be prone to disruptions, even if the buffers already built give some comfort and time to mitigate the extant risks (see the Technical note on stress testing). While the upgrade of the systemic risk oversight may take years, under the current

---

<sup>1</sup> The note was prepared by Francesco Columba (Banca d’Italia), Consultant for the IMF. The analysis was based on publicly available information, answers to a questionnaire, IMF documents and other background documentation provided by the Swedish authorities, as well as discussions with the authorities.

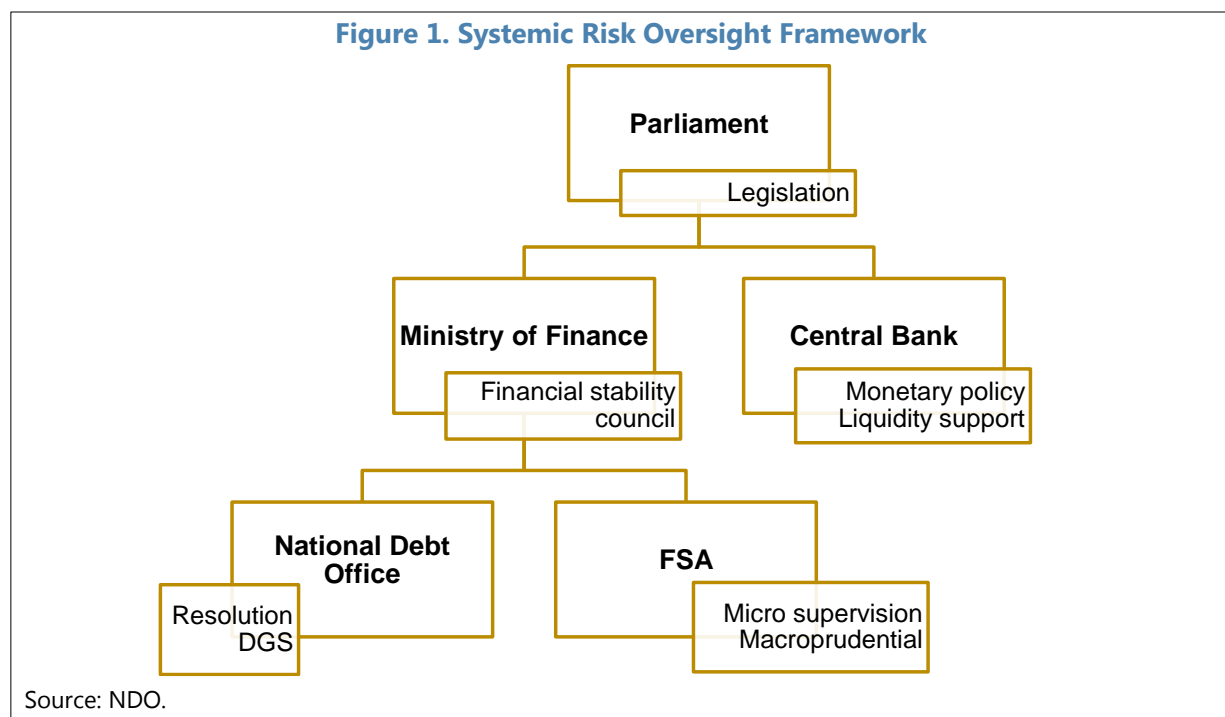
<sup>2</sup> See also IMF-FSB-BIS “Elements of Effective Macroprudential Policies: Lessons from International Experience” (2016) prepared at the request of the G20.

framework broadening and strengthening the macroprudential mandate and toolkit of the FI is needed to expeditiously address the mounting vulnerabilities in the Swedish credit markets.

## SYSTEMIC RISK OVERSIGHT FRAMEWORK

### A. Overview

**6. Sweden's systemic risk oversight framework relies on three institutions and the Ministry of Finance.** The framework encompasses a single supervisor (Finansinspektionen, FI), with mandate also for consumer protection and macroprudential issues; the central bank (Riksbank), in charge of monetary policy, systemic liquidity, and of promoting a safe and efficient payments system; the National Debt Office (NDO), which acts as the resolution and deposit insurance authority; and the Ministry of Finance (MoF) which drafts financial legislation. The Riksbank is an independent authority under the parliament, while FI and NDO are operationally independent authorities under the government. FI's and NDO's budgets are approved by the MoF. The government proposes legislation to the parliament, which allocates mandates and budgets to authorities, such as FI and the NDO. FI and NDO issue secondary regulation, based on authorization by the government (Figure 1).



**7. The FSC serves as a discussion forum.** The FSC comprises the Minister for Financial Markets, the Riksbank Governor, FI Director General, and the National Debt Office Director General and discusses financial stability issues and measures but without any decision-making power. The decisions on measures rest with the individual authorities.



**8. The Riksbank Act is going to be revised, and the government has together with the center-right parties and the Left Party, agreed to expand the ability of Finansinspektionen to take measures to counteract financial imbalances on the credit market.** The agreement on macroprudential policy means that Finansinspektionen will receive a formal mandate, enabling it to draw up proposals for additional tools that will then be approved by the government. In order to implement this agreement, a legislative proposal will be sent on public consultation by the Ministry of Finance. The government, at the request of the parliament, is appointing a parliamentary commission on the Swedish monetary policy framework and the Riksbank Act for a review which most likely will take some years. The commission is also expected to clarify the Riksbank's financial stability mandate.

## B. Issues

**9. The systemic risk oversight mandate is unclear.** In Sweden, there is not one agency playing a leading role in identifying systemic risks. Both FI and the Riksbank are analyzing systemic risks. FI was tasked in 1994 with the financial system stability and the well-functioning of financial markets by a government ordinance, which was amended in 2014 adding for the FI a mandate to prevent financial imbalances with the aim of stabilizing the credit market, while considering the impact of these measures on economic development, often referred to as the FI's macroprudential mandate (Annex 1). The difference between the two mandates, as well as their content, is unclear. The IMF-BIS-FSB definition of systemic risk as a disruption of the financial system that can have material effects on the real economy could be used as reference to clarify the content of the mandate, with a set of well-defined objectives, and the associated macroprudential instruments. The Riksbank is mandated in the Sveriges Riksbank Act to promote a safe and efficient payments system, which has a fairly broad meaning. In practice, it entails a responsibility to promote stability in the financial system.

**10. The financial stability and macroprudential policy mandate of FI rest on a thin foundation.** The MoF may swiftly change the ordinance, which regulates FI's mandate. The FI's strategic direction is given by the Ministry of Finance, which provides the financing, appoints the Director General and the Board, and defines FI's mandates and tasks through the Instruction and annual Letters of Appropriation. This does not bode well for operational independence and candid analysis, and it does not seem fully aligned with IMF guidance and ESRB recommendations.

**11. A weak macroprudential mandate for FI induces a weak FI power to support it.** The unclear definition of the macroprudential policy mandate has led to uncertainty over the instruments that FI can use to achieve financial stability, with some tools used in some other countries amiss. While LTV and amortization requirements have been introduced by FI, there is a widespread assumption that changes to their calibration and the introduction of a DTI limit would have to be proposed each time to the government and eventually be subject to parliamentary approval. Currently the amortization requirement requires the government's approval while other tools under national law to address risks originating from the residential real estate sector (such as LTI, DTI and DSTI) could require new legislation. However, the need of such legal passages does not

seem to have been firmly clarified as the lengthy debate and judicial challenges about the introduction of mortgage amortization requirements testifies.<sup>3</sup>

**12. Staff dedicated to macroprudential policy in the FI is scarce reducing its ability to identify and address quickly systemic vulnerabilities.** FI has a dedicated department for macroprudential policy, with about 20 employees and another 15-20 in supervisory areas ensuring that macroprudential issues are also relevant there. However, bank supervision has less than 100 staff to supervise 124 institutions, including one G-SIB. The result is limited analytical capability, too few examinations, and over-reliance on a small number of key people which makes unlikely that support to macroprudential policy is prioritized in supervisory areas. Both the FSAP reviews in 2002 and 2011 raised concerns over the adequacy of supervisory resources, given such a large banking sector. Since the last FSAP, FI's banking supervision staff has increased. However, it remains under-resourced given its responsibilities. Moreover, given new demands, including the prospective conversion of Nordea's major subsidiaries operating in the region into branches, resources will be even more stretched.

**13. At the same time, the Riksbank has a cadre of highly skilled economists overseeing systemic risk, without a clearly defined formal role with regard to financial stability and systemic risk identification.** At the Riksbank, the Financial Stability Department is involved in financial stability and systemic risk analysis, without a formally sanctioned role in the macroprudential policy arena. For the past 20 years, the Department has issued a high quality Financial Stability Report. The department consists of six divisions with a total of 65 employees. In addition, the Monetary Policy Department at the Riksbank is to some extent working with macroprudential policy related work, for example estimating effects on the economy of different macroprudential actions, as this will affect monetary policy.

**14. Accountability for the financial stability objective is weak.** The objective of financial stability is not clearly assigned to FI which shares it de facto with the Minister of Finance, the NDO and the Riksbank. Accountability for financial stability is dispersed between the political bodies and FI building into the system a bias for inaction, or at best a slow response to financial stability risks.

**15. The FSC is a discussion forum with no decision-making powers, resources and a disciplined method to foster cooperation among its members.** The FSC is legally established as a Committee of Inquiry, with a secretariat staffed with two and a half full time employees. The FSC discusses financial stability issues, but the lack of a procedure for a formal agreement of its members on the systemic risk analysis discussed, does not ensure that measures commensurate to the assessment of the financial stability risks are taken from its members. The FSC was established through a decision by the government in 2013 as part of the seven party agreement on the macroprudential framework. The FSC (*Kommittén för finansiell stabilitet*) is governed by Terms of

---

<sup>3</sup> The introduction of an amortization requirement was challenged in some courts prompting FI to halt the introduction of the requirements even if it was not strictly required to do so.

Reference issued by the government (ToR 2013:120, available in English). The committee is comprised of the FSC, a preparatory group (*beredningsgruppen*) and a secretariat (*kansli*).

**16. The Riksbank's financial stability analysis is respected but the recommendations are sometimes discounted because of the Riksbank's limited role in the financial stability framework.** The Riksbank has interpreted broadly its mandate to promote a safe and efficient payments system (leveraging also on its lender of last resort role), but has no clearly defined formal financial stability role and its assessment of it is underutilized. There are indications that financial institutions in Sweden tend to not pay attention to financial stability recommendations by the Riksbank on macrofinancial imbalances, as the Riksbank has no macroprudential powers. Surveys indicate that confidence in the Riksbank's work on financial stability is greatest among politicians, but many also point out that they regard the Riksbank's mandate and decision-making powers in this field as limited.

### C. Assessment and Recommendations

**17. Sweden's financial stability framework poses challenges that can weaken its ability and willingness to act promptly.** Most of the existing national macroprudential arrangements suggest that a clear mandate forms the basis of the assignment of responsibility for taking macroprudential policy decisions (IMF, 2014). The lack of a clear mandate and separation of responsibilities between FI and the government makes the framework prone to a slow reaction to financial stability risks as testified by the lingering vulnerabilities in the housing market and household sector and the protracted debate on the measures to address them. The allocation of the macroprudential policy powers between the government and FI should be clarified in the law in order to clarify accountability. A broad macroprudential mandate and set of macroprudential instruments for FI should be given by a law to support its willingness to act. FI should be allowed to increase the resources dedicated to systemic risk oversight and to cross-institutions supervisory issues given the rising supervisory and financial stability challenges which can impair its ability to act.

**18. Sweden's model of macroprudential policy framework with no legally enshrined formal role for central bank and no powers to a financial stability committee stands out as rather unique and potentially detrimental to the promotion of effective cooperation in risk assessment and mitigation.** While there can be no "one size fits all" approach many of the observed institutional designs provide the main mandate to an influential central body with substantial convening power and the ability to take a broad view of the entire financial system (IMF, 2014; Table 2). Such a mandate can be assigned to an existing authority, or a policymaking committee or inter-agency council, generally with an important role of the central bank. In many jurisdictions, the central bank (France, Germany, New Zealand, UK, US) plays an important role or the Minister of Finance participates (France, Germany, UK, US) and in some instances independent external experts are included (France, UK, ESRB). Where the supervisory authority is the macroprudential decision-maker, coordination with other relevant authorities may be facilitated through the establishment of a coordinating or advisory body (as in Australia), or by attributing a strong role to the central bank on its decision-making board (as in Finland). IMF (2014) underlines that the macroprudential frameworks that seem to have been more conducive to willingness to act

have been models where the macroprudential mandate is assigned to a body or a committee with a clear accountability. It is also desirable that the central bank plays an important role in macroprudential policy harnessing the long-standing expertise of the central bank in systemic risk identification testified by the stream Financial Stability Reports and its incentives to ensure macroprudential policy is pursued effectively.

**Table 2. Illustrative Macroprudential Policy Institutional Framework Models  
Selected Country Examples**

	Central Bank Model		Separate Committee Model
	Model 1 (Board or Governor) <sup>1</sup>	Model 2 (Internal Committee)	Model 3 (Committee outside the central bank) <sup>3</sup>
Countries	Argentina, Belgium, Brazil*, Cyprus, Czech Republic, Estonia*, Hong Kong (SAR)*, Hungary, Indonesia, Ireland, Israel, Italy*, Lebanon, Lithuania, Netherlands*, New Zealand, Norway <sup>2</sup> , Portugal*, Russia, Singapore, Slovakia and Switzerland <sup>2</sup> .	Algeria, Malaysia*, Morocco, Saudi Arabia, South Africa, Thailand, and the UK.	Austria (M), Chile (M), Denmark (C), France (M), Germany (M), Iceland (M), India (M), Korea (M), Malta (C), Mexico (M), Poland (C), Romania (C), Turkey (M), and the US (M).

<sup>1</sup> Jurisdictions with an "\*" have an additional council including other supervisors (e.g. insurance supervisory authorities and financial market authorities) that plays a coordinating role.

<sup>2</sup> In Norway and Switzerland, the central bank is mandated to issue recommendations on the countercyclical capital buffer (CCyB), with ultimate decisions on the buffer rate made by the Ministry of Finance and the Swiss Federal Council, respectively.

<sup>3</sup> "(C)" or "(M)" indicates whether the council is chaired by the central bank or by a government minister (usually the Minister of Finance), respectively.

Source: IMF-BIS-FSB (2016).

**19. Peer country experiences also indicate that it is desirable that the central bank plays a key role for an effective macroprudential policymaking.** Although Australia, New Zealand and UK have taken a range of approaches to ensure the ability to act to respond appropriately to macrofinancial risks (Annex II)<sup>4</sup>, the common insight from their experiences seem to be represented by the importance for the effectiveness of macroprudential policy that the central bank plays a key role in it. What also stands out is the relevance of a clear legislative mandate for the macroprudential authority in order to strengthen its willingness to act and the need of explicit mechanisms for cooperation and information sharing between agencies to strengthen the effectiveness of supervision. The combination of soft powers (expressing recommendation not subject to comply or explain) and harder powers (direct control over macroprudential tools or formal recommendations to other agencies, coupled with a 'comply or explain' mechanism) is also key to limit inaction bias (IMF 2013).

**20. Although fraught with difficult legal issues, potentially at a constitutional level, a revision of the FSC structure and powers to achieve a shared view of systemic risks should be**

<sup>4</sup> This paragraph draws on the Annex II by Rima Turk (2016).

**devised to reap out the potential socioeconomic benefits now latent in its members.** Revising the FSC structure appears to be challenging from a legal perspective: devising a solid legal foundation for any attribution of powers to the FSC and for the relation between the positions taken by the FSC members and those of the respective authorities, including of the government, is a daunting task with a high reward in terms of financial stability benefits provided by an encompassing and shared assessment of the systemic risk for Sweden. It would be particularly difficult to square the role of the Minister for Financial Markets, who is part of the government, in terms also of his representation authority with his participation to an FSC provided of soft powers. These challenges ask for a thorough and careful assessment of the legal aspects, including constitutional ones, as well as for a strong political backing, as for instance achieved in the past with the seven parties' agreement.

**21. An upgrade of the responsibilities of the FSC is recommended.** The FSC should have a statutory basis with recommendation power, preferably with a comply or explain attribute, to foster cooperation among authorities involved in the systemic risk oversight, of course without touching on the exclusive areas of competence of the RB, such as monetary policy, as per the Riksbank Act. If the legal challenges to granting the FSC such powers would prove to be impossible to be met,<sup>5</sup> a similar body with representatives from FI, the RB and the NDO, should be devised, eventually without the participation of the government in the person of the Minister for Financial Markets to ease the additional legal challenges posed by the participation of the government to such bodies. It is of course left to the authorities to tailor our recommendations to the legal possibilities in Sweden. Within the FSC, the RB should be given the leading role in systemic risk analysis in order to benefit from its expertise and information on the financial system (through its promotion of a safe and efficient payments system and systemic liquidity roles).<sup>6</sup>

**22. It is also recommended that the preparatory group of the FSC is upgraded to a Systemic Risk Committee (SRC) chaired by the Riksbank.** The SRC, chaired by a Riksbank Deputy Governor and composed also of high-level representatives of FI and the NDO should monitor systemic risk and propose to the FSC the adoption of recommendations on actions to mitigate such risks. The SRC would meet with a higher frequency than the FSC, at least quarterly, to assess the emergence of new risks assisted by the FSC secretariat, which would be staffed mainly with economists, on a rotation basis if needed, leveraging on RB and FI staff. The publication of majority and minority views supporting the vote about the adoption or not of a recommendation should be allowed and conveyed to the public.

**23. A more formal role for the Riksbank in financial stability discussion and recommendations is warranted in line with IMF guidance and the prevalent approach in peer countries.** A case can be made for the Riksbank's involvement in opining on macroprudential

---

<sup>5</sup> According to the Swedish authorities the Constitution does not allow any agency or body, including the FSC, to instruct another agency to take a measure or even to issue a recommendation to an agency. entailing a comply or explain obligation.

<sup>6</sup> In many jurisdictions, the central bank (France, Germany, New Zealand, UK, US) plays an important role or the Minister of finance participates (France, Germany, UK, US) and in some instances independent external experts are included (France, UK, ESRB).

policies, given its knowledge and information on the financial system. Given the Riksbank's expertise and skilled resources invested in the financial stability analysis it does not seem efficient and even potentially dangerous for financial stability to overlook the Riksbank's analysis. Also, an encompassing analysis of the macrofinancial linkages, between financial markets, the real economy and the financial institutions does not seem to be conducted by any other of the institutions involved in systemic risk oversight. The law should ensure that the Riksbank's expertise in financial stability analysis finds a clear institutional role in the oversight of systemic risk.

**24. There is a lack of resources dedicated to macroprudential policy in FI and the FSC, while those in the RB are not leveraged upon.** A stronger role of the FI and of the FSC on the systemic risk oversight is needed, while a more efficient use of RB resources in the policy area is needed. The FSC would be the right venue to bridge differences among its members and convey a stronger and unified assessment of systemic risk.

**25. The FSC should issue an annual financial stability assessment leveraging on the analysis of its members to provide a clearer guide to financial system stakeholders.** The assessment should provide an overall shared view of the key risks to Swedish financial stability to guide markets and other relevant stakeholders, and which could be made explicit in a financial stability map assigning scores to the major categories of risk for the financial system. The assessment would rest on FI and RB reports and try to bridge a unified view of systemic risk, albeit more compact, given that also the Secretariat to the FSC would consist mainly of a small number of employees seconded from the constituent agencies. If properly timed with respect to the FI and RB reports, the FSC assessment could add also another influential reference point for the monitoring of the financial system risks.

**26. The authorities should also enhance their set of analytical tools for financial stability analysis.** FI, consulting with RB if deemed necessary, should conduct regular surveys on the distribution of households' financial assets;<sup>7</sup> undertake tests of second round effects from household deleveraging and regular corporate stress tests; enhance liquidity stress testing by using maturity ladders; strengthen solvency stress tests by using granular time series for the calibration of credit risk parameters; and start collecting interbank exposures, including cross border for contagion analysis. FI and RB could explore collaboration in the collection of data for cross-sectional and cross border contagion analysis, as well as in scenario design that are more scenario driven and risk based. Staff recommends that FI should be allowed to increase the resources dedicated to systemic

---

<sup>7</sup> The ECB's Household Finance and Consumption Network (HFCN), established in December 2006, conducts the Eurosystem's Household Finance and Consumption Survey (HFCS), which collects household-level data on households' finances and consumption. The dataset for the first wave of the survey was released in April 2013. See [https://www.ecb.europa.eu/pub/economic-research/research-networks/html/researcher\\_hfcn.en.html](https://www.ecb.europa.eu/pub/economic-research/research-networks/html/researcher_hfcn.en.html). Examples of national surveys can be found in <https://www.hfcs.at/en/> and <https://www.bancaditalia.it/statistiche/tematiche/indagini-famiglie-imprese/bilanci-famiglie/index.html>

risk oversight and to cross-institutions supervisory issues given the rising supervisory and financial stability challenges to be addressed by FI.

## SYSTEMIC RISK MANAGEMENT

### A. Overview

**27. Over the years, FI has adopted a host of macroprudential measures, mostly on the credit supply-side.** Following the evolution of international regulation, a host of capital buffers to enhance banks' resilience to shocks was adopted and in 2013, FI, under its stability mandate, also set a 15 percent floor on risk weights for mortgages, then raised to 25 percent in 2014. Moreover, in January 2013, a liquidity coverage ratio (LCR) requirement was introduced both in aggregate and separately in the EUR and USD currencies. In September 2014, FI introduced a 1 percent countercyclical capital buffer (CCB), then raised it to 1.5 percent in June 2015, and to 2 percent in March 2016. In 2014 FI introduced a capital conservation buffer of 2.5 percent of risk-weighted assets, a pillar II add-on of 2 percent of risk-weighted assets for the four largest banks, and in 2015 a systemic risk buffer of 3 percent for such banks (January 2015). On the demand side FI could introduce two instruments. In 2010, under its mandate for consumer protection, a loan-to-value limit of 85 percent for new mortgages was introduced. In June 2016, an amortization requirement for new mortgages was introduced.

**28. The Sweden financial system is a nodal center for the Nordic-Baltic financial systems.** Swedish banks in Finland account for 70 percent of assets. Nordea is the largest bank in Sweden and Finland and the second largest in Denmark. Swedish banks' Baltic subsidiaries account for large shares of total assets in Estonia, Lithuania, and Latvia. From a network perspective, the Swedish financial system is the most important ("central") in the Nordic region (Brandão-Marques and others, 2017). Sweden is influenced by macro-financial conditions in other countries. About 47 percent of lending by Swedish banks takes place outside Sweden, of which over  $\frac{3}{4}$  in the Nordic-Baltic area. Sweden has significant responsibilities for financial stability in the region, a feature that would become more pronounced after the planned conversion of Nordea's Nordic subsidiaries into branches.

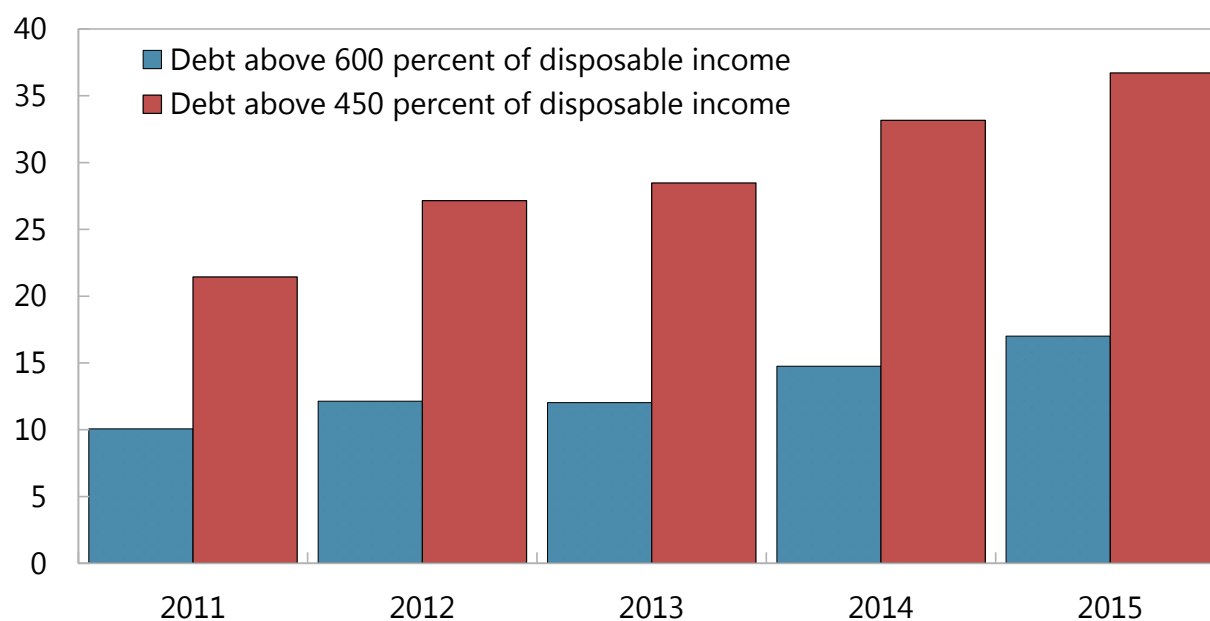
### B. Issues

#### The housing market

**29. Household debt has been rising relative to income with new borrowers taking on increasingly high debts relative to income.** The growth in debt primarily reflects rising housing prices owing to prolonged supply-demand imbalances that are exacerbated by the voluntary amortization feature, low interest rates, and tax incentives to hold real estate and to finance it with debt. The share of households with debt-to-disposable income (DTI) ratios above 450 (600) percent was about 37 (17) percent in 2015, up from 21 (10) percent in 2011 (Figure 2). The credit-to-GDP gap is negative and credit to households is growing in excess of income though still at single digit rates. Households are vulnerable to interest rate increases (70 percent of residential mortgages are

based on floating rates) and declines in housing prices, although average LTVs of 61 percent on the mortgage stock and 68 percent on new loans provide sizable buffers for banks.

**Figure 2. Distribution of Debt-to-Income Ratios for New Mortgage Borrowers (Share of Households, Percent)**



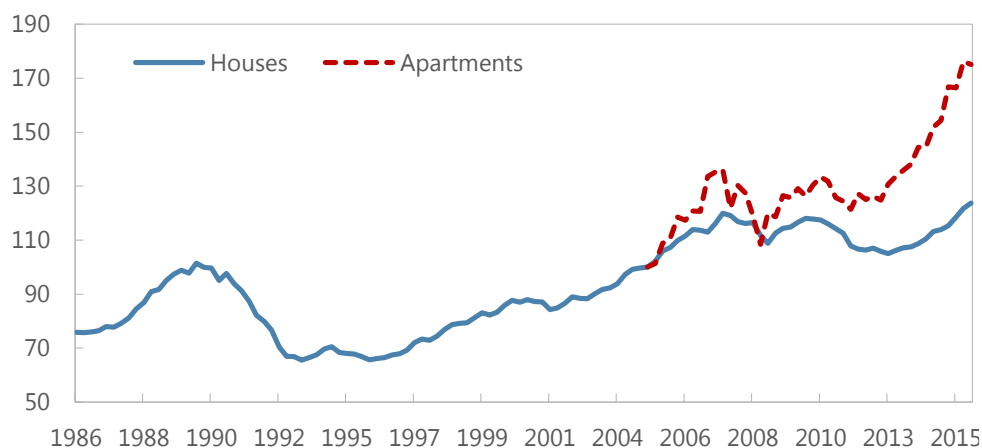
Sources: Finansinspektionen and Fund staff calculations.

Note: The figure shows debt-to-income ratios based on households' total debt and net disposable income.

**30. House prices have risen to high levels, slowing only recently.** The price-to-income ratio is 32 percent above its 20-year average—highest among the OECD countries, which raises a red flag although research finds that deviation from long-run equilibrium is more modest (Turk, 2015). Continued house price gains provide incentives for households not to amortize loans, and taking out even larger loans relative to income (Figure 3). Expensive houses are not a deterrent for borrowers since the previous lack of mandatory amortization, falling mortgage rates, and the expectation of further price increases help the credit assessment at loan origination. On the positive side, the recent decline in average LTVs and origination to 68 percent may reflect that banks are becoming more conservative.



**Figure 3. Swedish Housing Prices in Relation to Disposable Income Per Capita (Index, 2015Q1 = 100)**



Source: Riksbank.

**31. Against this backdrop, housing finance creates vulnerabilities due to specific features of Swedish residential mortgages, Swedish mortgage contracts have long maturities (30–50 years, with longer maturities not uncommon), and lacked mandatory amortization until June 1, 2016.** Contracts are reviewed every one to five years, and on these occasions, interest rate and amortization requirements can be negotiated. About 65 percent of households amortize, but amortization is low, with about 1.3 percent of households' loan amounts amortized in 2015. The recently introduced minimum annual amortization requirement applies to mortgages issued after June 2016, until LTV ratios reach 50 percent, and excludes new construction. The minimum annual amortization is 2 percent for loan-to-value (LTV) ratios above 70 percent, and 1 percent for LTV ratios between 50 and 70 percent. Loans with no amortization requirements are considered high-risk in most countries and are subject to more restrictive lending standards.<sup>8</sup>

**32. FI views that the rising house prices, lending standards, and high household debt do not impose high (credit) risk for banks, yet they add to macroeconomic vulnerabilities.** Rather than distress, supervisors are concerned with the impact of households deleveraging if they come under stress, with reduced consumption impacting employment and smaller firms serving the domestic market. The reasoning is that mortgages are full recourse loans, most Swedish households have high savings, and for not so rich households, social benefits would be enough to prevent generalized defaults. FI's stress tests show that households have good capacity to service debt even under stress scenarios including higher unemployment and interest rates.

**33. The authorities responded to rapid credit growth and increasing household debt with macroprudential measures focusing on credit supply.** An 85 percent cap on loan-to-value (LTV)

<sup>8</sup> See Bank of England "The Financial Policy Committee's Powers Over Housing Tools", July 2015; and APRA Prudential Practice Guide, APG 223—Residential Mortgage Lending, November 5, 2014, page 15.

ratios, adopted in 2010, has not been effective in containing debt, given rising prices and the possibility of taking uncollateralized loans above the cap. The lack of mandatory amortization has taken a long time to address given FI's insufficient mandate. A mandatory amortization requirement was adopted into law and became effective on June 1, 2016.

**34. Banks have indicated that at mortgage origination the borrower capacity is stressed in such a way that it obviated for the lack of amortization requirements before June 2016.** Banks have signaled that even in the absence of amortization requirements bank's practice in the credit assessment when the mortgage was originated included a stress of the households borrowing capacity with the application of a 7 per cent interest rate that could be interpreted as tantamount to an amortization requirement. It remains to be ascertained the impact of the new amortization requirements on banks mortgage credit assessment process and calibration. FI also took comfort from a financial stability perspective that in its household stress test a 6.7 per cent interest rate was employed with a strong outcome in terms of households resilience

**35. Structural constraints and fiscal incentives impair the ability of house supply to match demand adding pressure to house prices.** Restrictions on the use of land at the local level impair a strong expansion of housing supply and the rigidities of the rental market regulation do not help, while mortgage interest rate deductibility and the lack of a property tax contribute to further propel house demand adding to house price increases. Demand pressure, with an estimated gap of 700,000 housing units,<sup>9</sup> is not likely to be accommodated in the short term by the recent uptick in new buildings construction, due to regulatory issues and fiscal incentives adding to house prices upward trend. The current pace of housing completions represents less than 1 percent of the total housing stock, lagging behind rising populations especially in the larger urban areas.

### **The corporate sector**

**36. Public data on Swedish corporates suggest some vulnerabilities that are worth monitoring.** While large corporates appear to have strong interest coverage ratios (ICR), the strength declines with corporate size. About half of corporate debt is denominated in foreign currency and banks usually do not require clients to have income in foreign currency as a condition to grant loans in foreign currency. A 250 basis points (bps) shock to interest rates would bring the interest coverage ratio of medium and small corporations to about 1.5. This would be aggravated if a recession reduced corporations' earnings. Corporate fragility is particularly important for banks with sizeable exposures to small and medium-sized enterprises (SMEs). For the largest four banks, corporates represent 30 percent of total exposures.

### **Banks**

**37. Swedish banks' high interconnectedness with the Nordic-Baltic banks creates the potential for sizable contagion effects.** Sweden is both a potential source of contagion for the regional financial systems and at the receiving end of spillovers generated by shocks in the region

<sup>9</sup> <http://www.boverket.se/sv/om-boverket/publicerat-av-boverket/kampanjer/boverket-arbetar-for-att-fler-ska-erbjudas-bostad/>

through its banks' interconnectedness. Different factors drive the region's economies, providing diversification but Nordic banks follow similar business and funding models. This could be a source of regional contagion, e.g. through the covered bond market if a fall of asset prices were to trigger a loss of confidence. Analyses based on market price data highlight strong cross-border links between financial and non-financial corporates, suggesting a risk of cross-border contagion between the region's financial centers and real economy (Brandão-Marques and others, 2017). For the Baltic economies, financial integration is a source of innovation as well as potential spillovers, the main concern being an abrupt deleveraging by Swedish parent banks.

**38. The covered bond market is a key driver of interconnections across financial institutions.** Among Swedish investors, it is primarily insurance companies, other banks, and funds that purchase covered bonds. Importantly, Swedish banks invest in covered bonds to have buffers of liquid assets and to act as market makers; as of end-2015, their holdings represented about 28 percent of their equity. The banks also issue covered bonds in Denmark, Finland, and Norway to fund their operations in these countries.

## C. Assessment and Recommendations

**39. High house prices are not necessarily bound to fall, however, if this were to happen, the corrections in the financial system could be damaging, in particular given the high household debt.** Staff calculations suggest a house price fall by 20 percent would reduce GDP by 2.6 percent. It would affect banks directly through rising NPLs and as household deleveraging lowers consumption with knock-on effects on corporate investment. Moreover, second round effects on financial stability in Sweden may arise from the impact of lower domestic demand on medium and small firms serving the domestic market that have weaker financial health than larger export-oriented companies. Given the high interconnectedness within the Nordic-Baltic financial systems, a fall in house prices with an associated loss of confidence in the Swedish housing market collateral that underpins covered bonds could trigger disturbances across the region. The high reliance on wholesale funding and covered bond concentration in bank portfolios would act as an amplifying factor.

**40. Giving FI full flexibility to calibrate LTV ratios, lowering them if needed, can help to contain the feedback between credit and asset prices.** LTV limits directly reduce the funding available to borrowers, hence they can reduce housing demand, leading to a decrease in credit and house price growth. A tightening of the limits can also lead households to revise down their expectations of future house prices and bolster borrowers' resilience to house price shocks by increasing the equity in the residential property. FI should be granted the full flexibility to change the LTV of mortgages, lowering it if needed, as it would give FI more latitude to mitigate systemic risk from high house prices and household debt.

**41. Even if households appear resilient, it is difficult to be conclusive about how scenarios of falling housing prices and higher interest rates would play out.** Stress tests do not capture all second round effects; households' balance sheets have large amounts of debt exposed to banks' unlimited pricing power while on the asset side their investments are exposed to market volatility;

there are no data available on households' wealth distribution that can be compared with the distribution of debt burden or used for stress testing purposes; and in fact pre-crisis data suggests that households with higher debt relative to their income typically have lower liquid assets.

**42. The introduction of a maximum debt-to-income ratio to increase household resilience and stop higher indebtedness from supporting higher housing prices is recommended.**

Capping the DTI ratio is useful to have the households maintain buffers to absorb the impact of interest rate shocks, and to lean against the feedback cycle between household debt and housing prices since limits to DTI ratios automatically becomes more binding as house prices rise relative to income, unlike LTV limits. Limits to DTI ratios results in lower LTVs as house prices rise relative to income, reducing the risk of negative equity if house prices fall. UK and Ireland, which recently experienced strong house price dynamics, adopted LTI limits and the measure is under consideration in New Zealand. In order to enhance households' resilience and in view of the lengthy process to adopt new macroprudential tools, FI should proceed with proposing the adoption of a DTI limit soon. Nonetheless, a final decision on activation and calibration of a DTI limit should be deferred until the tool is authorized with a law, to take into account developments including experience with the amortization requirement and the effects on the macroprudential stance vis-a-vis housing market developments.

**43. Additionally, Swedish banks are considerably exposed to other Nordic countries, where high household debt and rising asset prices are also features of financial markets.** In Norway, elevated household debt and overvalued house prices create major vulnerabilities, and continued low oil prices could trigger a balance sheet deterioration. In Finland, weak economy helped to lower house prices, but households' increased debt levels made them more vulnerable to income shocks or interest rate increases, in a situation when fiscal buffers have been eroded, potentially compromising households' payment capacity in a severe crisis. In Denmark, house prices show some signs of overheating, and household DTI ratio remains high at about 260 percent.

**44. The impact of recent macroprudential measures is not yet clear, however imbalances are far from corrected.** Growth in mortgage credit has picked up to almost 8.5 percent in June 2016, up from 7.3 percent in 2015 and the debt to income ratio has continued to rise in particular for those households with already high debt burden. At the same time, the annual house price increase in 2016 has slowed to about 10 percent compared with the peak growth of 18 percent in October 2015, led by slower apartment price increases in Stockholm and Gothenburg. The recently adopted macroprudential measures may have helped to cool demand, together with a combination of other factors, such as the government's announcement of more housing construction and public discussion of mortgage interest deductibility. Yet, house price expectation indicators have rebounded following a two-month decline. The sufficiency of the amortization requirement is still not clear, in particular because the measure does not apply to mortgage loans granted before June 2016. FI is considering the adoption of a cap on the DTI or LTI ratio, but it is unclear if FI has the authority to implement such a measure as legal questions arose on whether the legislative provision on soundness provided the legal base to introduce an amortization requirement.

**45. The recent amortization requirement is a welcome step to correct households' incentives distortions, but with effects on market practices and systemic risk to be closely monitored and assessed.** The new mandatory amortization rules allow the new Swedish mortgage loans to be considered less high-risk than before, but when the LTV ratio goes below 50 percent no amortization is required, calling for a close monitoring of the amortization practices in the market, and an assessment of its effect on household indebtedness, housing prices and systemic risk. Staff simulations in a general equilibrium setting (Chen and Columba, 2016) indicate that an optimal amortization period from a welfare perspective for the entire economy, which takes into account the effects on consumption, housing stock and labor supply, would be 25 years, implying an amortization rate of 4 per cent per year, which coupled with the 2.5 per cent interest rate assumption would compare to the interest rate assumed by banks and FI in credit assessment and stress test respectively. Staff analysis, subject to the usual caveats, and supervisory practice, which considers high risk the no-amortizing loans, induce to consider as a healthy financial stability proposition to keep the amortization requirements in place and to perform yearly reassessment of the effects on systemic risk and on households' welfare of the new regulation. It is recommended a close monitoring of the effect of the new amortization requirements on systemic risk and household indebtedness and a yearly reassessment of their calibration, which could include a reassessment of the extent of the interest-only period triggered after the LTV prescribed limit is reached and/or of LTV ratio to be reached before the borrower may decrease the amortization rate or stop amortizing the debt.

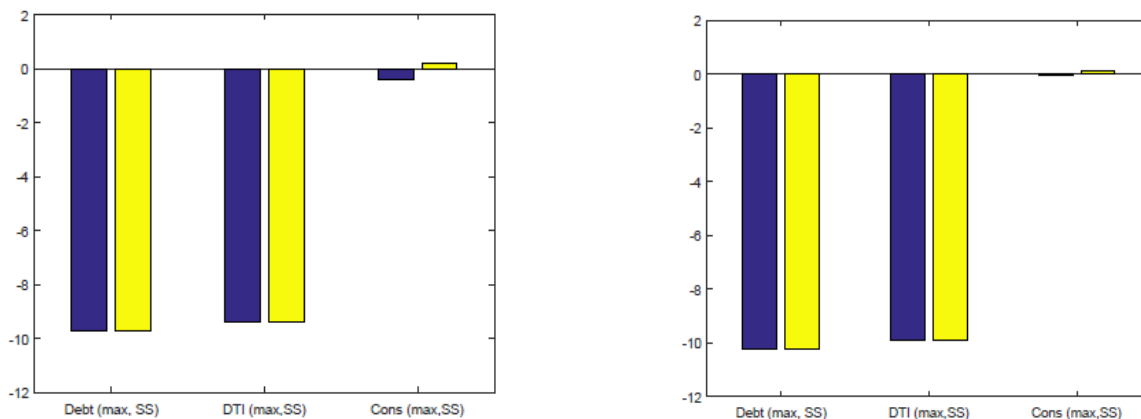
**46. Housing finance imposes considerable maturity transformation and refinancing risks to banks.** Customer deposits represent around 40 percent of total funding since Swedish households invest a large proportion of savings in securities rather than bank accounts, in part reflecting high mandatory contributions to pension funds. With one of the highest loan to deposit ratios in European countries (about 200 percent), the long-maturity residential mortgages rely on wholesale funding, such as covered bonds with typical three-year average maturity.

**47. Staff models indicate that demand-side macroprudential instruments may reduce the household DTI ratio effectively.** Staff analysis suggests that the introduction of a LTV limit and of amortization requirement are effective in reducing households DTI with small effects on consumption and output (Figure 4, from Chen and Columba, 2016). At the same time, tighter supply-side macroprudential measures, such as mortgage risk weights, would only have very marginal effects on household debt despite relatively large impacts on household consumption. This finding reminds that the impact of macroprudential policies goes beyond curbing mortgage debt, it also decreases households' consumption, and affects distribution of the housing stock and other sectors in the economy, namely the banking sector.

**48. Staff welfare analysis also suggests that it can be welfare improving to further tighten macroprudential measures, and that a combination of macroprudential and tax measures would achieve a higher welfare level.** Tighter LTV cap on new mortgages, stricter amortization requirement, lower mortgage tax deductibility and higher mortgage risk weights improve welfare. This relationship only holds up to a certain point suggesting some optimal levels of these macroprudential measures exist (see Annex III). A mix of the macroprudential measures studied is needed to deliver the maximum level of welfare (Figure 5, from Columba and Chen, 2016).

Importantly, staff finds that tighter macroprudential policies lead to a more muted response of the economy to banking system shocks including shocks to bank capital and its monopoly power in setting deposit rate that affects its funding costs. This would indicate that sound macroprudential policies are beneficial to the safeguard of the intermediation function of the financial system and of its support to the real economy’s financing needs.

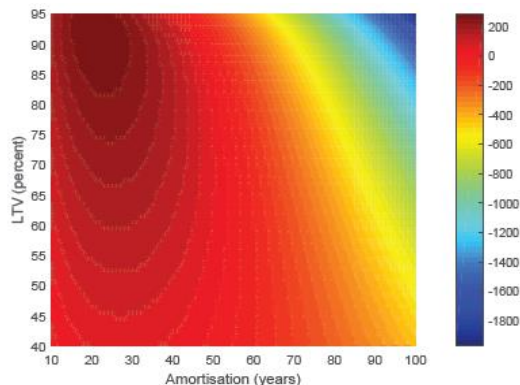
**Figure 4. Impacts from a Permanent Reduction in LTV ratio (L) and Amortization Period (R)**



The figure depicts maximum impacts on household mortgage debt, debt-to-income(DTI) and consumption(Cons) following a permanent reduction in loan-to-value (LTV) ratio from 85 to 80 percent. And changes in the three variables in the new steady state (LTV= 80) compared with the baseline (LTV= 85).

The figure depicts maximum impacts on household mortgage debt, debt-to-income(DTI) and consumption(Cons) following a permanent reduction in amortization requirement from 50 to 45 years. And changes in the three variables in the new steady state (Amortization= 45years) compared with the baseline (Amortization= 50years).

**Figure 5. Welfare: Interaction Between Amortization Requirements and LTV Ratios**



The figure depicts welfare over a combination of amortization requirements and loan-to-value (LTV) ratios. The dark red color corresponds to the highest level of welfare, and dark blue represents the opposite. The scale is displayed by the vertical bar on the right.

**49. Structural constraints and fiscal incentives impair the ability of house supply to match demand adding pressure to house prices.** Mortgage interest rate deductibility and the lack of a property tax contribute to further propel house demand adding to house price increases. The adoption of measures that could help to restore the demand-supply balance in the housing market in the medium term is recommended, such as lowering mortgage tax deductibility and/or revisiting the property tax ceilings to moderate the incentives to accumulate housing debt. Political action to ease constraints to household supply, associated with excessively restrictive regulations in the use of land seems also warranted as testified by the 22-point government program for more housing.<sup>10</sup> Adopting such measures that could restore the demand-supply balance in the housing market in the medium term is recommended.

**50. Including corporate risks in FI's risk analysis is important.** An implementation of top down stress tests of corporate resilience (along the lines of what FI currently uses for assessing household resilience) in order to gauge the impact of macroeconomic instability on corporates ability to repay debt is recommended. Enhanced supervisory focus on SME portfolios, in particular for banks with concentrated SME exposures is also warranted.

**51. The potential for contagion from the interconnectedness with the Nordic-Baltic banks is material and calls for cooperation between regional authorities.** Considering the high interconnectedness within the Nordic region and the reduced influence by host supervisors on regional bank branches' operations, strengthening the collaboration of supervisory authorities in the region is desirable, in particular, in the area of supervisory information sharing and joint stress-testing. The expected "branchification" of Nordea Bank will further increase the importance of closer regional coordination.

**52. Financial stability frameworks within the Nordic-Baltic region should be enhanced through closer supervisory collaboration.** Enhancing financial stability frameworks within the Nordic-Baltic region through closer supervisory collaboration to monitor extant risk is recommended. The authorities should seek to revamp regional cross-border cooperation arrangements. The Nordic-Baltic Macprudential Forum—established in 2011 to discuss financial stability risks and macroprudential policies—brings together central bank governors and heads of supervisory authorities. Although an informal body without decision-making powers, it has proved effective in allowing regional authorities to share financial stability concerns and it should continue operating. The work of the forum could be improved by:

- Publishing the Forum's assessments of risks as well as current macroprudential developments in the region. Ideally, publication should be made in the websites of all participating agencies in order to reinforce ownership. Alternatively, the report could be published by the agency in charge of the chair or in a dedicated web site;

---

<sup>10</sup> See Ho (2015) and Turk (2015).

- Collecting exposure data for the implementation of network stress testing among financial intermediaries in order to supplement national solvency and liquidity stress tests, and help calibrating second round effects of financial and macroeconomic shocks.

**53. It is recommended a close monitoring on banks' cross holdings of covered bonds, and considering the introduction of measures to contain the potential concentration risk that adds to the direct bank exposure to the housing market through mortgage loans.** Holdings are subject to the overall cap on large exposures (20 percent). However, since large exposures are defined by names, they do not take into account potential contagion due to correlated risks.



## Annex I. Follow-up on Key Systemic Risk Oversight Recommendations of the 2011 FSAP

### Establish a high-level FSC

1. **An agreement between seven parties in the Swedish Parliament (the Riksdag) on the principles of the macroprudential framework was reached in 2013.** On the basis of that agreement, the government decided to appoint Finansinspektionen (FI) as the Swedish macroprudential authority and to establish the Financial Stability Council (FSC).
2. **FI was appointed as the authority responsible for applying macroprudential measures through changes in the government instruction ordinance (SFS 2009:93) for FI.** The ordinance was amended to add another task for FI in section 1, subsection 3, to take measures to prevent financial imbalances with the aim of stabilizing the credit market, while considering the impact of these measures on economic development. The change in the ordinance came into effect on 1 January 2014. The ordinance has also since 1995 tasked FI with ensuring that the financial system is stable and that there is high confidence in the financial system with well-functioning markets.
3. **As mentioned, the FSC was also set up as a part of the macroprudential framework.** The FSC serves as a mechanism for cooperation (information exchange and coordination) among all authorities whose actions have a material impact on financial stability, without prejudice to their respective mandates. The FSC is an independent authority in the legal form of a Committee of Inquiry, which has a Terms of Reference outlining its structure, purpose and mission.
4. **The FSC became operational in the beginning of 2014.** Pursuant to its Terms of Reference, the FSC is a forum in which representatives of the government, FI, the National Debt Office (NDO), and the Riksbank regularly meet to discuss issues of financial stability and how financial imbalances can be counteracted. If a financial crisis should arise, the FSC would also function as a forum for the discussion of possible measures for handling the crisis. The government and the authorities represented on the FSC decide independently what measures should be taken within their respective areas of responsibility.
5. **To ensure transparency, a substantive account of the presented information, arguments and discussions at FSC meetings is published on the Council's website within two weeks after each meeting.** Meetings of the FSC are chaired by the Minister for Financial Markets. The other members are the Director General of FI, the Director General of the NDO and the Governor of the Riksbank.
6. **To support its work, the council has a preparatory group (*beredningsgrupp*) and a secretariat (*kansli*) which assists in administering the FSC and preparing background documents, council meetings, and are responsible for ongoing work.** The FSC have regular meetings at least two times per year. The preparatory group is comprised of senior representatives from each of the authorities. The preparatory group meets more often than the FSC (at least once a month) and is a more informal forum for information exchange and discussion for the authorities.

Overall, the establishment of a financial stability council and its secretariat contributes to a flexible, efficient and coherent work on financial stability issues.

## Annex II. Delegation of Authority for Macroprudential Policy-Making in Selected Peer Countries<sup>1</sup>

**1. This annex informs on international experiences for the delegation of authority for macroprudential policy to enhance the ability to act.** These arrangements are drawn from 3 countries—Australia, New Zealand, and the United Kingdom (UK)—and they are grouped under three main themes: interactions with the government and parliament, design and implementation of instruments, and institutional arrangements.

### Interactions with the government and parliament

**2. *Mandate:* A clear legislative mandate strengthens the willingness to act and is essential for taking responsibility for macroprudential policy decisions.**

- In Australia, the explicit legislative mandate of financial stability for the Australian Prudential Regulation Authority (APRA) enables it to take a systemic perspective on supervision.
- In New Zealand, legislation also establishes legal powers of the Reserve Bank (RBNZ) for macroprudential policy.
- In the UK, legislation assigns clear roles and responsibilities of macroprudential supervision and regulation to the Financial Policy Committee (FPC).

**3. *Ex-Ante Oversight:* Independence, transparency, and accountability are strengthened by broad expectations for the responsibility of macroprudential policymaking.**

- In Australia, the government's [Statement of Expectations](#) (SOE) sets forth, among others, the role and responsibilities of APRA, its independence from the government, and accountability to the parliament. In turn, APRA responds to the SOE with a [Statement of Intent](#).
- In New Zealand, a [Letter of Expectations](#) from the Minister of Finance to the Governor of the Reserve Bank outlines broad expectations of the RBNZ's relationship with the Minister and areas of particular interest for the year, including macroprudential policies among others. In addition, macroprudential policy is anchored through a [Memorandum of Understanding](#) (MoU) between the MoF and the RBNZ, requiring consultation with the MoF ahead of making decisions, although the final decision rests with the Governor of the RBNZ.
- In the UK, [remit and recommendations](#) letters outline the FPC's responsibility in supporting the government's economic policy, explaining decisions, publishing a record of its formal meetings and a bi-annual financial stability report, and appearing before members of parliament.

---

<sup>1</sup> This annex has been prepared by Rima Turk, and is part of Turk (2016).

**4. *Consultation [Coordination]: Explicit mechanisms for cooperation and information sharing between agencies strengthen the effectiveness of supervision.***

- In Australia, coordination between agencies takes a formal (e.g., Coordination Committee meeting every 6 weeks, analysts' meetings) and informal (e.g. recognition of building and maintaining relationships across agencies) shape, including public backing by the Reserve Bank of Australia (RBA) of APRA's actions to help the attainment of the policy objective. Further, [data sharing arrangements](#) between APRA and the RBA, which has access to supervisory data on individual institutions, allow for risk assessments based on consistent information. While analyses on financial stability risks are done separately by the RBA and APRA, the results are often circulated between the agencies ahead of meetings, publication of reports, and communication.
- The RBNZ is accountable to the Minister of Finance for its macroprudential policy advice and decisions. As agent for the MoF, its Board of Directors ensures that legislative responsibilities are met while its powers are exercised in appropriate consultation with the government.
- In the UK, overlapping membership of the FPC with other policy bodies and use of supervisory intelligence and data from the Prudential Regulation Authority (PRA) and the Financial Conduct Authority (FCA) to assess systemic risks enhance communication and understanding of policy interactions.

**5. *Communication: Commitment to take action is further strengthened through communication tools, including cost and benefit analyses that complement financial stability reports, policy statements, and meeting records.***

- In Australia, risk registers serve as a vehicle to record elevated but not normally seen risks if significant and affecting more than one institution. Risk registers act as both a communication and risk management tool for APRA.
- The RBNZ regularly reviews the appropriateness and effectiveness of macroprudential policy decisions. It also publishes a regulatory impact assessment of any macro-prudential policy that is deployed, and initiates public consultation on those measures.
- The FPC is similarly required to communicate how it plans to use its direction powers, weighing both the costs and benefits from the deployment of macroprudential tools.

**6. *Ex-Post Oversight/Accountability: Parliamentary hearings strengthen the accountability framework for the delegation of authority.***

- APRA operates as part of the government and is accountable to parliament—and ultimately to the public—through the Treasury Ministers, the Parliamentary Committee process, and the formal discussion of its annual report.

- The RBNZ communicates and explains its views on systemic risks to the public and to parliament. The bi-annual publication of its annual financial stability is reviewed by the parliament's Finance and Expenditure Committee.
- Members of the FPC must appear regularly before parliament at Treasury Committee hearings, where they are required to explain their assessment of risks and policy actions. There are also appointment hearings for FPC members by the Treasury Committee. Further, the FPC has to publish a record of its formal meetings and a bi-annual financial stability report.

## Arrangements for the introduction and design of new measures

**7. Power over Instruments: The combination of soft and harder powers limits inaction bias and avoids implementation delays, thereby ensuring effectiveness.** The powers of the macroprudential policy authority can vary from "hard" (direct control over macroprudential tools or ability to direct other regulatory agencies) to "semi-hard" (formal recommendations to other agencies, coupled with a 'comply or explain' mechanism) and "soft" (expressing an opinion/warning/recommendation not subject to comply or explain) ([IMF 2013](#)). The macroprudential policy frameworks benefits from a combination of these powers, as soft powers alone are not enough ([CGFS 2010](#), [IMF 2013](#))

- In Australia, power to use macroprudential tools is vested in APRA, consistent with its mandate of taking an industry-wide or systemic perspective on regulation.
- In New Zealand, hard powers derive from the ability to deploy four instruments of macroprudential policy established by legislation—LTVs on mortgage credit loans, a core funding ratio, a countercyclical capital buffer, and sectorial capital requirements.
- In the UK, hard, semi-hard, and soft [powers](#) are provided to the macroprudential policy authority. The FPC can make recommendations to other agencies to take measures to mitigate risks, including on a comply-or-explain basis to the PRA and the FCA. It can also give directions to the PRA and FCA to deploy macroprudential tools. Additional powers include recommending changes to the Treasury or other regulators.

**8. Calibration: Macroprudential tools need not be applied uniformly across the board but can be calibrated to contain efficiency costs.<sup>2</sup>**

- APRA adjusts its prudential settings in response to assessed changes in systemic risk. [For instance](#), in the context of historically low interest rates, high levels of household debt, strong competition in the housing market, and accelerating credit growth, APRA further increased the level of supervisory oversight on mortgage lending in December 2014.

<sup>2</sup> In Germany, the proposed new instruments for the residential market are subject to exemptions, including a pro rata new loan quota for the application of the loan-to-value restriction and a "de minimis threshold".

- In New Zealand, flexibility in the framework allowed for [adjustments](#) to the LTV ratio two years after the limit was first introduced —such as varying the ratio by property location and investor type. With concerns that the housing market may pose a threat to financial stability, the [RBNZ](#) also restricted the share of banks' new residential mortgage lending that has an LTV exceeding 80.
- In the UK, a 15 percent limit is applied on the proportion of new mortgage loans with loan-to-income at or above 4.5 that any lender can issue. Such flexibility allows lending to households with low current, but high prospective income, while limiting excessive household indebtedness.

**9. *Flexibility: A flexible framework for macroprudential policy allows for the government to expand powers over new instruments as need arises.***<sup>3</sup>

- In New Zealand, where new risks are better addressed from outside the toolkit, the MoU between the RBNZ and the MoF allows for the consideration of additional macroprudential tools such as a debt-to-income ratio.
- The FPC's original powers of direction targeting bank health were expanded by the government to contain housing vulnerabilities, including [housing tools](#) such as limits on loan-to-income and loan-to-value ratios. Following a further request by the FPC for powers of direction over the [buy-to-let market](#), the government has completed its [consultation](#) on the matter.

## Institutional arrangements

**10. It is desirable for the central bank to play an important role in macroprudential policy and for the involvement of the Treasury to be more limited** ([BIS 2011](#); [CGFS 2012](#); [IMF 2011](#); [IMF 2013](#)). Whereas macroprudential policies are evolving and different governance models have emerged across countries, the central bank should have a strong role to harness institutional incentives to take action, expertise, and independence. A strong role for the central bank also ensures better coordination with monetary policy, provision of liquidity, and payment systems oversight. It can also help shield macroprudential policymaking from political interference that can slow down or bias the deployment of tools.

- In Australia, APRA is the agency with powers over macroprudential tools. Yet, both APRA and the RBA are involved in macroprudential analysis and policy as part of the Council of Financial Regulators, a non-statutory central coordinating body for financial stability that is chaired by the RBA Governor. APRA's relationship with the government is clearly outlined in the Statements of Expectations.

---

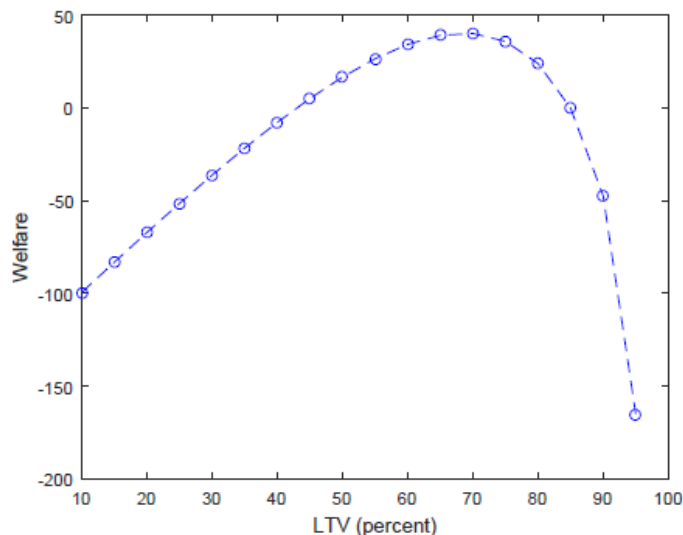
<sup>3</sup> Another example of flexibility in expanding the macroprudential policy toolkit is from Germany, where the Financial Stability Committee issued a recommendation to the federal government to create a legal basis for the deployment of macroprudential tools for the residential property market.

## SWEDEN

- In New Zealand, macroprudential policy powers are established for the RBNZ. A MoU governs its relationship with the MoF, with whom the RBNZ consults ahead of making macroprudential policy decisions. The Minister is also regularly informed of conditions that warrant a macroprudential policy response.
- In the UK, the FPC is chaired by the Governor of the BoE. Whereas macroprudential tools are designated by the Treasury and approved by parliament, the Treasury is a non-voting member in the FPC.

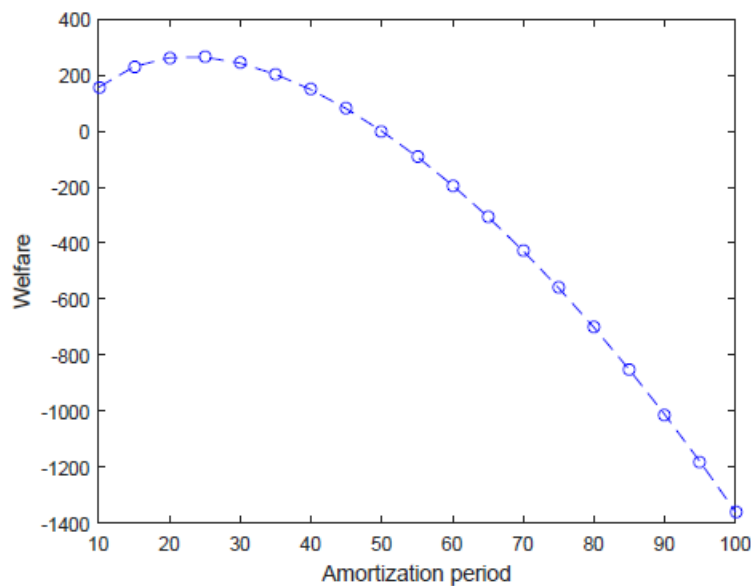
## Annex III. Effects of Measures to Stem Household DTI Ratio Increases<sup>1</sup>

**Figure 1. Welfare: Loan-to-Value Ratios**



The figure depicts welfare over a range of loan-to-value ratios

**Figure 2. Welfare: Amortization Requirements**

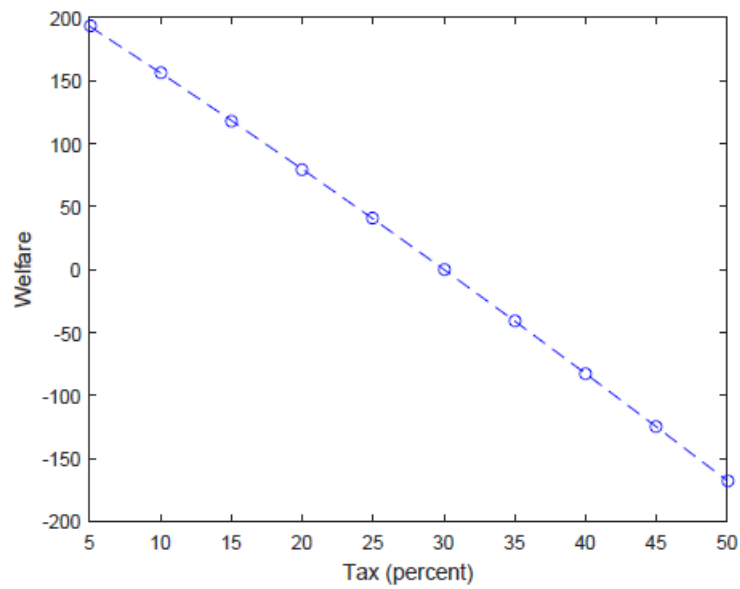


The figure depicts welfare over a range of amortization requirements.

<sup>1</sup> This annex rests on Chen and Columba (2016).

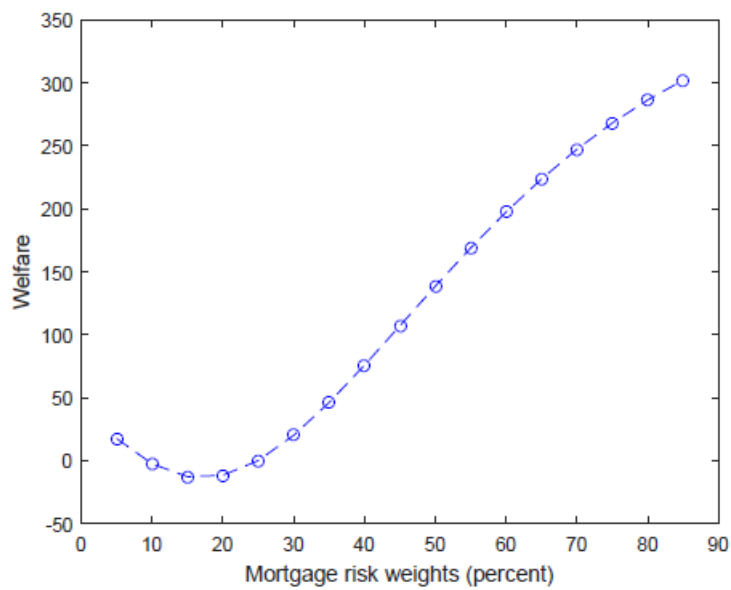


**Figure 3. Welfare: Tax Deductibility**



The figure depicts welfare over a range of tax deductibility.

**Figure 4. Welfare: Mortgage Risk Weights**



The figure depicts welfare over a range of mortgage risk weights.

## References

- Brandão-Marques, Luis, Marco Pinon, and Benjamin Huston, 2017, "Nordic Linkages," IMF Working Paper, forthcoming.
- Chen J. and Columba F. (2016), "Macroprudential and Monetary Policy Interactions in a DSGE Model for Sweden", IMF Working Paper, No. 74.
- Ho G. (2015), Housing Supply Constraints in Sweden, Sweden Selected Issues, IMF Country Report No. 15/330,
- IMF (2013), Key Aspects of Macroprudential Policy.
- IMF (2014), Staff Guidance Note on Macroprudential Policy.
- IMF (2014), Staff Guidance Note on Macroprudential Policy- Detailed Guidance on Instruments
- IMF-FSB-BIS (2016), "Elements of Effective Macroprudential Policies: Lessons from International Experience".
- Turk R. (2015), Housing Price and Household Debt Interactions in Sweden, IMF Working Paper, WP/15/276.
- Turk R. (2016), "On the Delegation of Authority for Macroprudential Policymaking in Sweden".