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September 2014

TECHNICAL NOTE

MACROPRUDENTIAL INSTITUTIONAL ARRANGEMENTS AND POLICIES

Prepared By
Monetary and Capital Markets Department

This Technical Note was prepared by IMF staff in the context of the Financial Sector Assessment Program in Switzerland. It contains technical analysis and detailed information underpinning the FSAP's findings and recommendations.

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Glossary

BCBS	Basel Committee for Banking Supervision
BIS	Bank for International Settlement
CAO	Capital Adequacy Ordinance
CCB	Counter Cyclical Buffer
FDF	Federal Department of Finance,
FinfraG	Finanzmarktinfrastrukturgesetz, financial market infrastructure law
FINMA	Swiss Financial Market Supervisory Authority
FINMASA	Financial Market Supervision Act
FSR	Financial Stability Report
FSB	Financial Stability Board
GFC	Global Financial Crisis
LTV	Loan-to-Value ratio
LTI	Loan-to-Income
MOU	Memorandum of Understanding
NBA	National Bank Act
SNB	Swiss National Bank

EXECUTIVE SUMMARY

Macroprudential prudential powers and responsibilities are split across agencies. The Swiss National Bank (SNB) has a financial stability mandate in the context of monetary policy, and the Swiss Financial Market Supervisory Authority's (FINMA's) responsibility is to protect the functioning of financial markets. To regulate collaboration in the area of financial stability, there is a Memorandum of Understanding (MOU) between the FINMA and the SNB, which also establishes two committees for cross agency cooperation. The federal government also has an important role for financial stability policies with significant regulatory powers, and there is a MOU between the Federal Department of Finance (FDF), the FINMA and the SNB, mostly focused on information sharing and cooperation during crises.

There is one dedicated macroprudential tool, the Counter Cyclical Buffer (CCB), which has a specified framework for decision making and consultation. After consulting with the FINMA, the SNB can submit a proposal to the Federal Council requiring banks to hold a CCB in the form of CET1 capital at a maximum of 2.5 percent of their total risk-weighted positions in Switzerland. In addition the SNB has a mandate to designate an institution as systemically important, while other TBTF policies are mainly implemented by FINMA.

Developments in real estate and mortgage lending are important systemic concerns. Very loose monetary policy has driven interest rates down to historically low levels, accelerating mortgage lending and bringing total mortgage debt to more than 140 percent of GDP. In parallel, housing prices have been rising, particularly in certain segments of the market. Tax policies have contributed to the real estate boom, since the imputed rental value is fully taxable, while mortgage interest and other costs are tax-deductible.

The authorities have taken measures to address these risks. FINMA recognized new requirements for mortgage financing drawn up by the Swiss Bankers Association as minimum regulatory standards since mid-2012 (including down payment and repayment time). The Federal Council backed these measures by requiring more capital for non-compliant loans, and for the part of mortgages exceeding 80 percent of the property value. FINMA also tightened rules for risk weighing mortgages for banks using an internal ratings-based approach. Finally, on SNB's proposal, the Federal Council activated the CCB, targeted at mortgage loans financing residential properties located in Switzerland, requiring banks to hold additional CET1 of 1 percent of their associated risk-weighted positions by end-September 2013 and a further increase of 1 percent was announced in January 2014 to be effective end-June 2014.

Current macroprudential policies appear well balanced, but some reforms of the framework should be considered.

- Transparency and accountability could be strengthened by highlighting cross agency activity and policy analysis related to financial stability and macroprudential policies to the public.

- Given the government's powers and interest, the FDF should continue to be directly involved in macroprudential policy discussions and formulation.
- The draft financial market infrastructure legislation, FinfraG, strengthens information exchange among FINMA, the SNB, and the FDF, which is welcome.
- The financial stability analyses conducted by the SNB and FINMA could be deepened and broadened. This includes knowledge about household and corporate finances, possibly requiring some additional data collection needs.
- In a medium-term perspective macroprudential arrangements should be reviewed while considering placing responsibility and powers for macroprudential policies with one institution or committee.
- Adding Loan-to-Value (LTV) and Debt-to-Income (DTI) limits to the macroprudedential toolkit should be considered.

Further tightening and additional tools to address potential imbalances in the housing and mortgage markets may be warranted.

- The measures taken, such as stricter demands on down payments and increased capital requirement for high LTV loans, could be tightened.
- Additional measures may be needed. Targeting affordability should be considered, i.e., some Loan-to-Income limitations. Mortgages to businesses and for commercial purposes deserve further attention and measures.
- In the absence of clear effects the authorities should issue its own regulations targeting the demand side, for example LTV and DTI limits.
- The tax incentives for taking on large mortgages should be reconsidered. The current tax regime gives incentives for households to take on mortgage debt.

Table 1. Switzerland FSAP Update 2013: Main Recommendations on Macroprudential Institutional Arrangements and Policies

Recommendation	Timeframe
Framework	
Transparency and accountability strengthened by highlighting cross agency activity and policy analysis related to financial stability and macroprudential policies to the public. Given the government's powers and interest, the FDF should continue to be directly involved in macroprudential policy discussions.	Short-term Short-term
Expanded information sharing and exchange in line with the draft financial market infrastructure legislation, FinfraG.	Short-term
Broaden and deepen the financial stability analyses, including household and corporate finances, possibly requiring some additional data collection needs. The analyses and the reporting of the systemic importance of non-banks, including data collection, to the extent needed, could be expanded.	Medium- to long-term Short- to Medium-term
Macroprudential arrangements should be reviewed and placing responsibility and powers for macroprudential policies with one institution or committee should be considered. Adding tools to the macroprudential toolkit to be considered. LTV and LTI caps would be important complements, and tools to contain liquidity and foreign exchange mismatches could be needed as well.	Medium-term Short- to Medium-term
Measures for real estate and mortgage markets	
Consider tightening existing measures and introducing new measures to address imbalances in the housing and mortgage markets. • Existing measures must be fully enforced including by strengthened guidance to auditors and stepped up own on-site inspections. • Existing measures could be tightened, including higher capital requirements for high LTV loans and further demands on down payments. • Targeting affordability should be considered, i.e., some Loan-to-Income limitations. • In the absence of clear effects the authorities should issue its own regulations targeting the demand side, for example LTV and DTI limits. • Increased capital requirements for borrowing secured by real estate in certain regions or areas could be considered in cases where developments are assessed to be risky and a correction would have systemic consequences. • Measures to address concentration risk and interest rate risks should be part of the macroprudential policy discussion. • Attention should be given to consistency of measures across mortgage originators (banks and nonbanks). • Mortgages to businesses and for commercial purposes deserve increased attention to identify emerging risks, and possible measures to improve commercial real estate lending standards should be considered.	Short-term and continuously
The tax incentives for taking on mortgages should be reconsidered.	Medium-term

INTRODUCTION[1]

1. The recent global financial crisis (GFC) demonstrated the importance of systemic financial stability, and the need to have a macroprudential framework in place to address systemic risks. Systemic financial stress and crises have far reaching effects on the economy and can make a recovery very difficult. Sharp adjustments of household and corporate balance sheets compress economic activity, and stressed banks and other financial intermediaries become reluctant and severely constrained to extend credit. At the same time, government finances may become stretched, and central banks typically face extraordinary challenges, adding to the pressure on the economy.

2. The need to focus on systemic risks applies also to Switzerland. The strain in the two large Swiss banks in 2008 and 2009 had widespread consequences for the economy, and the negative effects would have been worse if the government and the Swiss National Bank (SNB) had not been willing or able to step in to support. The real estate boom in the late 1980s and early 1990s created stress in the banking system, which again was contained through swift response and adjustments in the banking sector. Thus, while Switzerland has been able to avoid a severe and long lasting recession, the case is clear for proactive macroprudential policies to maintain systemic financial stability.

3. The purpose of this note is to assess Switzerland's macroprudential framework, policies, and challenges. Specifically the note will:

a. Review institutional arrangements for macroprudential policies in Switzerland and assess to what extent it is adequate given circumstances in Switzerland. This includes (i) objectives, responsibilities, and mandates; (ii) information; (iii), communication and reporting; and (iv) systemic risk analyses and policy recommendations.

b. Review and assess the available macroprudential policies and instruments, and draw conclusions to what extent additional measures are needed. In this regard the analysis will not focus on regulations and supervision of the two systemically important banks, as the broad range of Too-Big-To-Fail (TBTF) policies are covered in depth in other parts of the FSAP Update.

c. Outline the main macroprudential risks, in particular developments in the real estate and mortgage markets. Again, risks related to TBTF institutions are covered elsewhere in the FSAP Update.

d. Review recent macroprudential policies, discuss their effects, and point to possible additional policy measure that should be considered.

e. Identify policy recommendations in the area of macroprudential policies.

[1] The Technical Note was prepared by Erik Lundback.

4. The note is organized as follows: The next section gives a brief background on what is defined as macroprudential policies and point to recent literature. Section III presents the current Swiss framework and section IV describes the macroprudential tools. Section V analyzes macroprudential risks, and section VI describes recent policy measures to address these risks. Section VII assesses the arrangements and policies, and identifies recommendations for strengthening policies.

WHAT ARE MACROPRUDENTIAL POLICIES?

5. In the aftermath of the GFC strengthening macroprudential policies have been central to policy makers, and it is very much an evolving policy area. Many, if not most, countries, including Switzerland, have made significant reforms to their macroprudential policies and frameworks. International organizations and standard setters have also done a lot of analytical and policy work to guide country authorities' reforms and facilitate international cooperation. On September 16, the IMF issued the board paper "Key Aspects of Macroprudential Policy," following a board discussion.[2] The key conclusions were that (i) the goals and scope of macroprudential policy need to be defined clearly; (ii) macroprudential policy must be supported by strong supervision and enforcement and complemented by appropriate monetary, fiscal and other financial sector policies; (iii) effective macroprudential policy requires the ability to assess systemic risk; (iv) strong institutional and governance frameworks are essential for the effective conduct of macroprudential policy, which can benefit from an appropriate strength of powers and clear accountability, and the central bank needs to play an important role, even if the precise arrangements are driven by the political economy and traditions; and (v) cross-border implications of macroprudential policies call for international coordination. The Bank for International settlement (BIS), the Financial Stability Board (FSB), and other organizations have also published important analyses and guidelines.[3]

6. Broadly speaking macroprudential policies aim at reducing systemic financial risks to avoid widespread and costly disruptions in financial services. To this end focusing on keeping individual financial institutions sound has proven not be enough, although too-big-to-fail institutions are of systemic importance by themselves. A broader policy approach is needed to safeguard the financial system as a whole and its critical functions, and macroprudential policies have three main tasks (i) increase resilience of the financial system to aggregate systemic shocks, by building buffers that absorb their impact; (ii) contain the build-up of systemic vulnerabilities over time, by reducing procyclical feedback between asset prices and credit and containing unsustainable increases in leverage and volatile funding; and (iii) control the build-up of vulnerabilities within the financial system that arises through interlinkages between financial intermediaries and the critical role played by institutions in key markets, and can render individual institutions too important to fail.

[2] http://www.imf.org/external/np/sec/pr/2013/pr13342.htm. There is also a background paper: http://www.imf.org/external/np/pp/eng/2013/061013c.pdf .

[3] See for example BIS "Macroprudential instruments and frameworks: a stocktaking of issues and experiences," CGFS Papers No 38, May 2010; and FSB "Macroprudential Policy Tools and Frameworks—Progress Report to G20," October 2011.

7. Macroprudential analyses, frameworks, and policies are designed to achieve this goal, by calibrating prudential tools to target sources of systemic risk. This can include countercyclical capital buffers and provisions, sectoral capital requirements, measures to contain liquidity and foreign exchange mismatches, and caps on loan-to-value (LTV) and loan-to-income (LTI) ratios. Macroprudential policy can also seek to affect the design of products offered to borrowers in retail markets, and the functioning and institutional underpinnings of wholesale markets. It can also use tools that are traditionally associated with other policy fields, such as monetary (e.g., reserves requirements), fiscal (e.g., levies imposed on wholesale funding) and competition policy (e.g., takeover policies), as set out in more detail below.

THE SWISS FRAMEWORK

A. Objectives, Responsibilities, and Mandates

8. Switzerland has a macroprudential framework in place, but there is no macroprudential authority with an explicit macroprudential mandate.[4] Two institutions are responsible for financial stability: the SNB and the Swiss Financial Market Supervisory Authority (FINMA). The SNB has financial stability as a mandate and responsibility in the context of monetary policy,[5] and FINMA's responsibility is more generally formulated as protecting the functioning of the financial markets.[6]

9. It is recognized by the authorities that there are potential overlaps in mandates and responsibilities of the SNB and FINMA, and there is a Memorandum of Understanding (MOU) in place.[7] To separate the respective tasks of the agencies, describe common areas of interest and to regulate collaboration in the area of financial stability, FINMA and the SNB have a MOU. The common areas of interest are: (i) assessment of the soundness of systemically important banks and/or the banking system; (ii) regulations that have a major impact on the soundness of banks and financial stability; and (iii) contingency planning and crisis management. The MOU establishes a strategic Steering Committee, which meets at least twice a year and is co-chaired the Chairman of the SNB Governing Board and the Chairman of the FINMA Board of Directors, and an operational Standing Committee for Financial Stability, that meets at least four time a year and is co-chaired by the Head of the SNB's Department II and the CEO of FINMA.

[4] See also the analysis in the IMF Selected Issues Paper: "A Legal Framework for Macroprudential Oversight in Switzerland" IMF Country Report No. 11/116, May 2011 ; and the conclusions of the Swiss Financial Stability Working Group "Report on macroprudential oversight in Switzerland" Federal Department of Finance, February 2012.

[5] According to Article 5 para. 2e of the National Bank Act 7 (NBA), one of the tasks of the SNB is to contribute to the stability of the financial system. This contribution is made in the context of the SNB's monetary and foreign exchange policy. Furthermore, the preservation of financial stability is specifically referred to in Article 19 para. 1 of the NBA, which entrusts to the SNB the task of monitoring the payment and clearing systems.

[6] Article 5 of the Financial Market Supervision Act 8 (FINMASA).

[7] Signed in February 2010.

10. The federal government also has an important role for financial stability policies and has significant powers for setting and implementing financial regulations. These powers include the activation of the countercyclical buffer (CCB). FINMA and the SNB are taking the lead on changes to policies or regulations, but it is often the cabinet that makes the decision. Specifically, ordinances are based on parliamentary laws and are typically issued by the Federal Council (e.g., the capital requirements related to mortgage lending decided in 2012). For administrative units such as FINMA to issue ordinances, explicit delegation in laws or Federal Council ordinances is required.

11. There is also a MOU between the Federal Department of Finance (FDF), FINMA and the SNB focusing on cooperation during crises.[8] The stated objective is to improve and strengthen, the stability of the Swiss financial system, with the intention, in the context of cooperation in the event of a crisis, of taking due consideration of the impact of their actions on the sphere of responsibility of the other parties of the MOU, and coordinating their activities. The three parties meet at least twice per year to exchange information and views on financial stability and issues of current interest in financial market regulation. The FDF is responsible for organizing the discussions, and for setting the agenda. Under the MOU, FINMA normally chairs the Committee on Financial Crises, which is responsible for coordinating preparatory efforts and for crisis management.[9]

12. The most recent reforms were introduced following the report of the Financial Stability Working Group. It was recognized that the latest financial crisis had necessitated a review of the macroprudential oversight system, i.e., the oversight of the Swiss financial system as a whole, with a view to eliminating potential weaknesses and providing the Swiss economy with greater protection against the risks of a financial crisis.[10] In response, the FDF set up the Financial Stability Working Group in early 2011, tasked with reviewing the structure of macroprudential oversight in Switzerland, and formulating proposals to strengthen it.[11] In its report "Report on macroprudential oversight in Switzerland," published in February 2012, the Working Group presented three concrete proposals to strengthen macroprudential oversight: (i) introduce a countercyclical buffer; (ii) tighter capital regulations related to mortgages; and (iii) enhanced access for the SNB to information on financial market participants, and the creation of a legal foundation for the exchange of information between the SNB and the FDF to improve collaboration in the context of crisis prevention and crisis management. However, the Working Group concluded that that there was no need to change the macroprudential mandates of the SNB and FINMA as they saw the existing mandates as "sufficiently well-formulated."

[8] Signed in January 2011.

[9] FINMA chairs the committee unless measures under the control of the confederation or the SNB are to be discussed, in which case the FDF or the SNB may chair the committee.

[10] The Control Committees of the National Council and Council of States published a report on May 30, 2010 on the lessons learned from the financial crisis, in which they recommended reviewing legislative changes which would give FINMA and the SNB precise objectives in the oversight of the financial sector and provide them with the corresponding authority.

[11] The working group comprised representatives of the FDF, FINMA, and the SNB, and was chaired by Head of FDF Widmer-Schlumpf.

13. In an international perspective the Swiss macroprudential are fairly informal in terms of having a legally based coordinating body. Many advanced countries have some form of coordination body stipulated by law although MOUs are also common.[12] The government is furthermore often a member of the coordinating entity or group, Table 2. The numbers in the table should not be read as grading the quality of arrangements, but as a description of the status.

Table 2. Switzerland: Institutional Arrangement Indices

	CB-MP	CB-PnS	Gov
Austria	2	2	4
Canada	2	1	4
China,P.R.:Hong Kong	2	2	4
Finland	2	1	2
Israel	2	2	2
Korea, Republic of	2	1	4
Netherlands	2	3	1
New Zealand	4	3	1
Norway	2	1	4
Singapore	2	4	4
Sweden	2	1	1
Switzerland	2	1	1
United States	2	2	2

Source: Lim et. al. IMF Working Paper 13/166, Switzerland entry by FSAP Update staff.

CB-MP: role of the Central Bank in the Macroprudential Policy framework

1 – mandate is shared, no coordination body

2 – mandate shared and central bank member of coordination body

3 – mandate shared, central bank chairs coordination body

4 – central bank, or a committee of the central bank, sole owner of mandate

CB-PnS: involvement of Central Bank in Prudential regulation and Supervision

1 – no regulatory/supervisory functions

2 – supervises the banking sector

3 – supervises the banking sector and part of the nonbank financial sector

4 – supervises all of the financial sector

Gov: involvement of the Government in macroprudential policy

1 – no coordination body or the government is not a member

2 – member/observer of the policy coordination body

3 – co-chairs the policy coordination body

4 – chairs the policy coordination body

[12] See Nier, E., Osinski, J., Jacome, L., and Madrid, P., 2011, "Institutional Models for Macroprudential Policy," for an analytical overview, taxonomy, and country examples of different macroprudential policy frameworks.

B. Information

14. The SNB and FINMA share information, while the SNB has limited rights to collect information on individual financial institutions. FINMA has access to all information and documentation that it requires in order to fulfill its tasks, and the institutions supervised by FINMA are, furthermore obliged to immediately report any significant incidents.[13] However, the access rights of SNB to information on financial market participants are limited to the gathering of statistical data.[14] To get information beyond that, the SNB relies on either (i) exchanging of information with FINMA; or (ii) voluntarily information sharing by financial market participants.

15. Expanding information access rights for the SNB was one of the recommendations of the Financial Stability Working Group, but it was not unanimous. The report noted that the SNB has no direct, legally enforceable access to information regarding financial market participants beyond statistical data (e.g., financial market participants' exposure and vulnerability to specific risks). Consequently a majority of the Working Group concluded that the SNB should be given direct access to non-statistical information through an amendment to the NBA. This access would be restricted to information which is not already obtained by other authorities—i.e., FINMA—and is needed for macroprudential purposes. FINMA did not support this recommendation arguing that (i) the existing legal basis and the MOU are sufficient, and (ii) that creating an additional legal right to information for the SNB could be viewed by financial market participants as creating dual oversight.[15]

16. The MOU between FINMA and the SNB specify information sharing between the two agencies. FINMA and the SNB are allowed to exchange non public information, if required for fulfilling their mandates.[16] The MOU lists information that should be shared, including: (i) assessment of the various risk exposures for the banking sector, in particular for the systemically important banks; (ii) assessment of capital adequacy and liquidity of the banking sector, in particular with regard to the systemically important banks; and (iii) conclusions from the risk assessment for small and medium-sized banks. It also states that FINMA will inform the SNB of important findings obtained in the course of its supervision of the systemically important banks and the banking sector in general. Thus, the information that should be shared according to the MOU is fairly general, but in practice the FINMA share quite detailed data with the SNB, in particular with respect to the systemic banks.[17]

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[13] Article 29 paras. 1 and 2 of, FINMASA.

[14] Articles 14 to 16 of the NBA. SNB also has rights to information related to payment and clearing systems.

[15] In addition, a legal foundation for the exchange of information between the SNB and the FDF was proposed in order to strengthen collaboration in the context of crisis prevention and crisis management.

[16] Article 23 (b) of the Banking Act, Article 50 of the NBA.

[17] The tripartite MOU also regulates information sharing between FINMA, the SNB, and the FDF. The type of information specified is quite general and the exchange of information is to take place at least twice a year between the State Secretary of the FDF, the CEO of FINMA and the Vice Chairman of the Governing Board of the SNB.

17. A MOU also regulates information sharing between FINMA, the SNB, and the FDF. The type of information specified is quite general and the exchange of information is to take place at least twice a year between the State Secretary of the FDF, the CEO of FINMA and the Vice Chairman of the Governing Board of the SNB. This has left the FDF with fairly limited formal access to detailed information, and the Financial Stability Working Group recommended that a legal foundation for the exchange of information between the SNB and the FDF should be created.

18. Recent daft legislation has provisions that appear to address the recommendations of the Working Group with respect to information. On December 13, 2013, a draft of the financial market infrastructure law, FinfraG, was sent out for consultation. In this draft legislation, two articles of the NBA (Art. 16a, and Art. 50 Abs. 2) follow the recommendations of the Working Group, which is referenced in the explanatory report supporting the draft legislation. Since the law is out for consultation it may still change and the detailed implications will have to be assessed.

C. Communication and Reporting

19. The SNB publishes a Financial Stability Report (FSR) once per year where it presents its assessment of the Swiss banking sector's stability. The main purpose of the report is to draw attention to strains or imbalances which could pose a threat to the stability of the system in the short or the longer term, and in that way the SNB tracks developments in the banking sector from a macroprudential perspective. The FSR coverage includes the two big banks, reflecting their systemic importance, and quite specific recommendations have been made.[18] Domestically focused banks are also analyzed and treated as a group, where the focus has been on mortgages and the real estate market.

20. FINMA also publishes analyses of financial stability in Switzerland. Its annual report has some brief discussion of financial stability concerns and results from stress tests of banks' mortgage portfolios. The measures taken to address the risks related to mortgages and real estate are furthermore presented in some detail in the 2012 issue. Internally, the biannual Risk Monitor analyzes risks to the financial sector in general, and the biannual Real Estate Monitor covers developments in the real estate and mortgage markets.

D. Systemic Risk Analysis

21. The SNB analyses risks to the banking sector in various ways. A key component is different types of regular stress testing and scenario analyses, which is discussed in greater detail in the Technical Note on stress testing, which are used to identify the most important risk factors. The SNB also applies other tools and analyses including an internally developed score card system to

[18] Examples of recommendations include that the big banks (i) consistently and fully implement their published plans on strategy and capital-building, in order to further strengthen their resilience and, in particular, to improve their leverage ratios; and (ii) increase transparency with regard to their risks, including by publishing RWA using the standardized approach.

single out risky banks. The SNB closely monitors the systemically important banks, including in order to designate which banks are systemically important. The SNB has developed several early warning system models, but it has proven difficult to calibrate a useful model for identifying risky banks, partly reflecting the absence of bank failures in Switzerland in the historical data. Insurance companies and shadow bank entities in Switzerland are continuously monitored, but as these institutions are small in terms of domestic deposits and loan, the SNB does not regard them as a primary source of financial stability risk in Switzerland. Furthermore, due to large exposure limit restrictions, contagion risks for banks stemming from insurance companies and shadow banks are seen as relatively low.

22. The SNB, furthermore, monitors and analyzes the real estate and mortgage markets closely. As the real estate and mortgage markets are currently considered a main source of systemic risk. For an assessment of house price developments, several indicators, encompassing a combination of simple ratios as well as more sophisticated models,[19] are monitored on an ongoing basis to determine whether imbalances or “bubbles” are emerging. The analysis of household balance sheets is, nevertheless fairly limited as the available data lack granularity and the reporting is also somewhat lagging. This is of relevance as the growing residential mortgage lending gives rise to concerns about the sustainability of household balance sheet, including their pension assets. Given these data limitations regarding household finances, the vulnerability to interest rate and house price shocks are mainly assessed by using granular information on the banks’ mortgage lending portfolio (including loan-to-income, loan-to-value distribution, residual maturities, and repricing maturity).

23. As the microprudential authority the focus of FINMA’s analyses is mostly on individual institutions. In particular, FINMA closely monitors and supervises systemically important institutions and conducts semi-annual stress-testing exercises based on macroeconomic scenarios for the two big banks. In addition, stress test based on real estate shocks are of relevance for systemic risks, given recent developments in real estate and mortgage markets, and the large exposure to mortgages in many domestically oriented banks. The results of the stress test results are mostly shared with the SNB at a fairly aggregated level, and to the extent FINMA shares individual bank results they are anonymous. FINMA has an early warning and Camels-based rating system in place for assessing individual banks and banking groups, which identifies outliers and generates bank ratings

[19] See, Christian Hott, 2009. "Explaining House Price Fluctuations," Working Papers 2009-05, Swiss National Bank, for methodology.

MACROPRUDENTIAL TOOLS

24. There is one cyclical macroprudential tool, the Counter Cyclical Buffer (CCB). It was introduced in the context of the new Capital Adequacy Ordinance, and based on the proposal by the Financial Stability Working Group (Box 1). In addition, communication and moral suasion on issues related to macroprudential policies and financial stability is an important part of the SNB's strategy to ensure financial stability, most concretely illustrated by the FSR as discussed above. While the effects on the mortgage and real estate markets seem to have been limited thus far, the analysis and conclusions regarding the TBTF institution in the FSR appear to have had some impact, including on stock markets.

Box 1. The Counter Cyclical Buffer

The CCB was introduced in July 2012 as part of the Capital Adequacy Ordinance (Article 44). The SNB can submit a proposal to the Federal Council requiring banks to hold additional capital the form of Common Equity Tier 1 capital at a maximum of 2.5 percent of their total risk-weighted positions in Switzerland. Before a proposal is submitted the SNB must consult FINMA to hear their assessment of the situation. When a proposal is submitted, the Federal Council decide if the CCB should be activated, in which case FINMA will supervise implementation at the individual bank level. The implementation period will vary between three and 12 months.

The dual objectives of the CCB are to: (i) increase banks' loss-absorbing capacity if deemed necessary due to excessive credit growth; and (ii) to increases the cost of providing credit to prevent build-up of excesses. The CCB can be activated to apply only to a certain segment of bank credits if deemed appropriate.

The proposal to activate the CCB is based on regular assessments by the SNB. The early introduction of the CCB as a component of the Basel III framework was motivated by concerns about the risks of cyclical imbalances developing in the domestic mortgage and real estate markets. Thus, the focus is on the mortgage and real estate markets. The decision to propose an activation of the CCB is based on what SNB characterizes as guided discretion, meaning that a decision is based quantitative indicators and analyses paired with an overall qualitative judgment, which is especially important when the quantitative analysis gives a mixed picture. For considering a buffer targeting residential mortgages, the SNB focus on domestic mortgage volume and domestic residential real estate price indicators. The appropriate buffer level, when activated, will be calibrated to reflect the degree of imbalances suggested by the indicators and based on experience during previous crises in Switzerland and abroad.

25. There are of course also a range of other tools available that can address macroprudential concerns. Specifically, in addition to the CCB, the Working Group recommended a range of measures to reduce the perceived risks associated with increased mortgage lending and rising real estate prices. Since the target of these measures is to address systemic risks, they are part of the macroprudential policy mix, and a clear distinction between micro- and macroprudential tools is not useful. As discussed further below, these measures were subsequently implemented through FINMA and government action, and also reflected in more stringent minimum standards for

mortgage lending adopted by the Swiss bankers' association.[20] The latter is, furthermore, an indication that communication and moral suasion by FINMA, the SNB, and the government are important as parts of the macroprudential toolkit.

26. As pointed out above, TBTF policies are also essential in ensuring systemic financial stability and are in that sense part of the macroprudential framework. The size of the largest institutions in Switzerland, without a doubt, implies that any difficulties in any single institution potentially have systemic implications. This was also illustrated during the GFC as the two big Swiss banks suffered losses with systemic consequences, and in one case required government support, which prompted broad legal and regulatory reform to address TBTF risks.[21] The resulting TBTF legislation to ensure stability of the two big banks is a good example of where the distinction between macro- and microprudential regulation is blurred. At an operational level the TBTF legislation is mainly being implemented by FINMA, but the SNB also has a mandate to designate an institution as systemically important.

27. The SNB's responsibility to identify systemically important banks and their systemically relevant functions is regulated by law.[22] The SNB has to identify banks fulfilling functions which are indispensable for the functioning of the Swiss economy and which are not substitutable in the short term. Systemically relevant functions include, but are not limited to, domestic credit and deposit business as well as payment systems. Additional criteria such as size, risk profile and interconnectedness can elevate a bank's systemic relevance. Subsequent enforcement of the regulatory consequences is executed by FINMA.

MACROPRUDENTIAL RISKS

28. The current macroprudential policy mix has been designed to address potential emerging risks related to real estate prices and mortgage lending. Very loose monetary policy in recent years has driven down interest rates to historically low levels. This has in turn fueled the housing market, and accelerated mortgage lending to about 5 percent per year since 2009, bringing mortgage debt to above 140 percent of GDP (Figure 1). Mortgages are traditionally of fairly short maturity, implying frequent refinancing and exposure to changes in interest rates. However, recently there has been a trend towards longer term mortgages. Housing prices have been rising, in particular for owner-occupied apartments where prices on average have increased by 6 percent per year for the last several years (with some recent slowdown), which is well above nominal GDP growth. This has brought many house price indicators close or above previous peaks, which in the 1990s were followed by a significant correction and stress in the banking sector.

[20] For a recent discussion of the set of measures see Jean-Pierre Danthine, "A macroprudential progress report," speech for the Society for Financial Econometrics Conference, Lugano, October 11, 2013.

[21] The legislation requires systemically important banks to strengthen their capital and liquidity position, to reduce counterparty and cluster risks and to provide recovery and resolution plans.

[22] The banking law, paragraphs 7 through 10a.

Figure 1. Switzerland: House Prices and Interest Rates

Sources: Swiss National Bank, Wuest&Partners.

29. These developments are potentially risky and support proactive policies as banks are exposed to a combined real estate price correction and jump in interest rates. Macroprudential actions are needed ahead of peaks and before imbalances have become unsustainable. The main concern may not primarily be the immediate near-term risks, but more the underlying trajectory where borrowers become more leveraged and real estate prices become delinked from fundamentals. There are some recent tendencies to price increase moderation, but mortgage lending growth does not seem to abate substantially yet. In its latest FSR the SNB explained that it believes that the exposure of in particular domestically oriented banks has increased further since mid-2012. In addition to real estate price and mortgage lending developments, banks' interest margins have been falling, interest rate risks have risen sharply,[23] and quantitative lending surveys suggest there has been no significant tightening of lending standards.

Prices

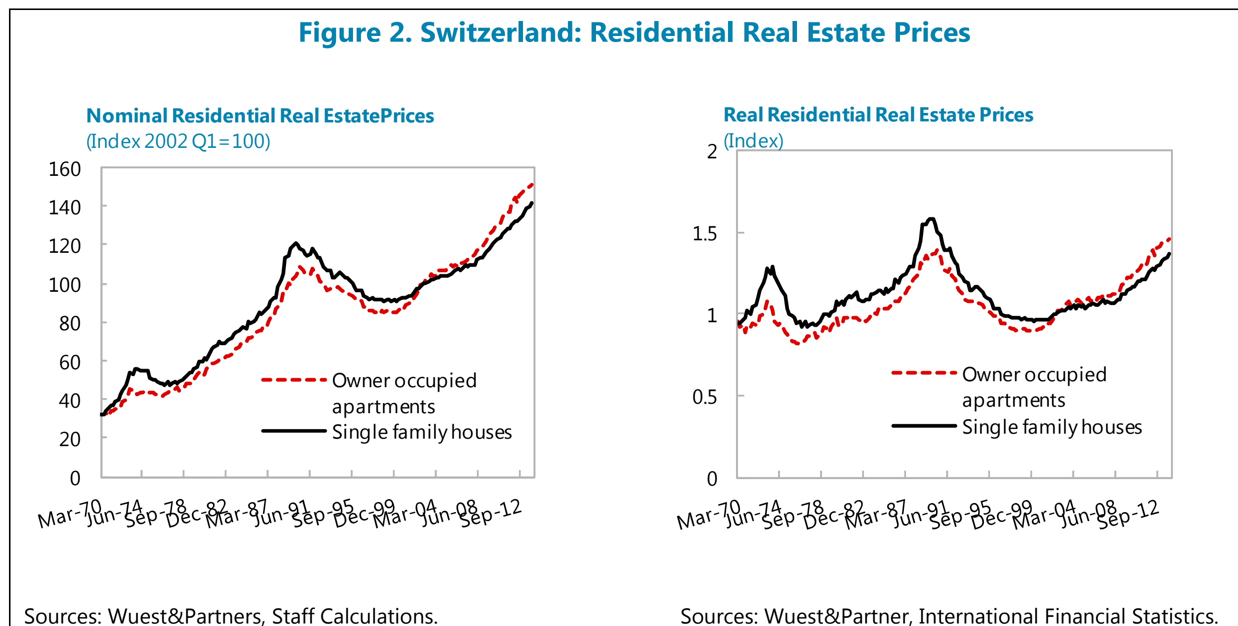
Residential real estate prices have been on an upward trend since the late 1990s, and increases have been especially strong for owner occupied apartments. Through end-2013 prices for owner occupied apartments had increased by 77 percent in the last ten years, while prices for single family homes increased by 49 percent during the same period (Figure 2).[24] Also in real terms have prices increased significantly. Compared to the CPI, owner occupied prices are at an all time high, almost   5 percent above the previous peak in the early 1990s before the sharp downward

[23] SNB FSR 2013 page 15.

[24] Wuest&Partner transaction prices.

adjustment.[25] Single family home prices are still about 14 percent below the peak, but above the peak in the 1970s and high in a historical perspective.

Figure 2. Switzerland: Residential Real Estate Prices

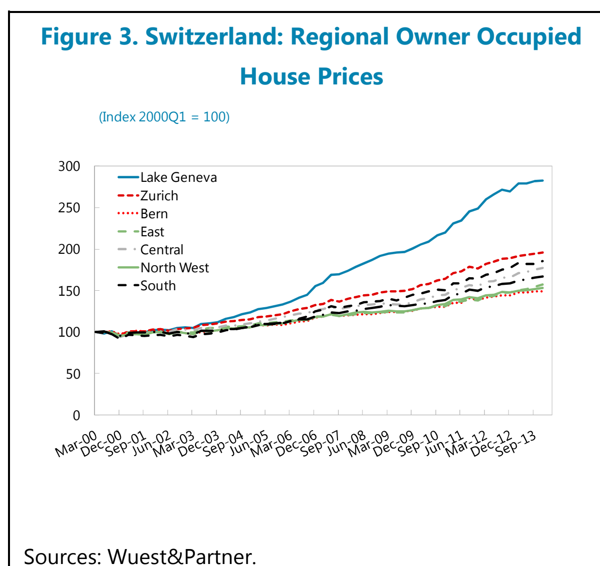


Sources: Wuest&Partners, Staff Calculations.

Sources: Wuest&Partner, International Financial Statistics.

30. Real estate price increases have been more dramatic in some regions. In particular at Lake Geneva, where prices for owner occupied apartments during the last ten years had increased by 152 percent through the third quarter of 2013 (Figure 3). Single family homes prices had increased by 91 percent during the same period. The price increases also started from already high levels.

Figure 3. Switzerland: Regional Owner Occupied House Prices

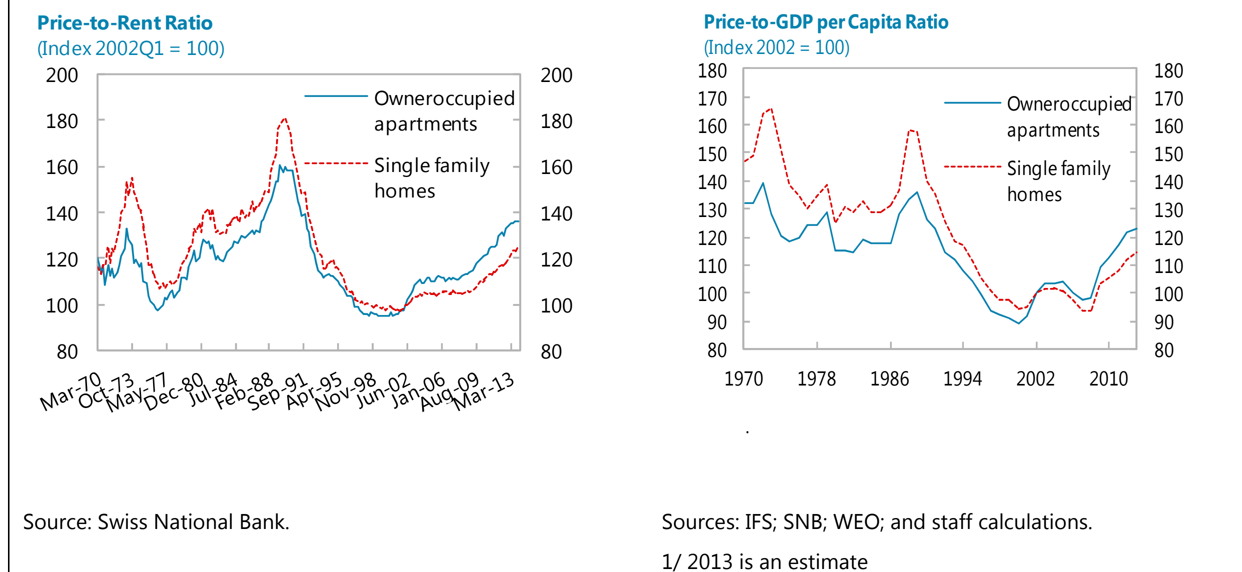


Sources: Wuest&Partner.

31. Comparing residential real estate prices to rents and income shows substantially increased ratios. Compared to rents, prices of owner occupied apartments have increased by about 25 percent in the last 10 years, which is significant (Figure 4). The ratio is nevertheless well below the historical high, though above the historical average. For single family home, the price to rent ratio is just above the long-run average. Turning to real estate prices compared to GDP per capita, the picture is fairly similar, and the ratio for owner occupied apartments prices is around 10 percent above the long-run average, while single family homes are a little below.

[25] WuestPartner asking prices, which are considered better for longer-term trends.

Figure 4. Switzerland: Prices to Rents and Income



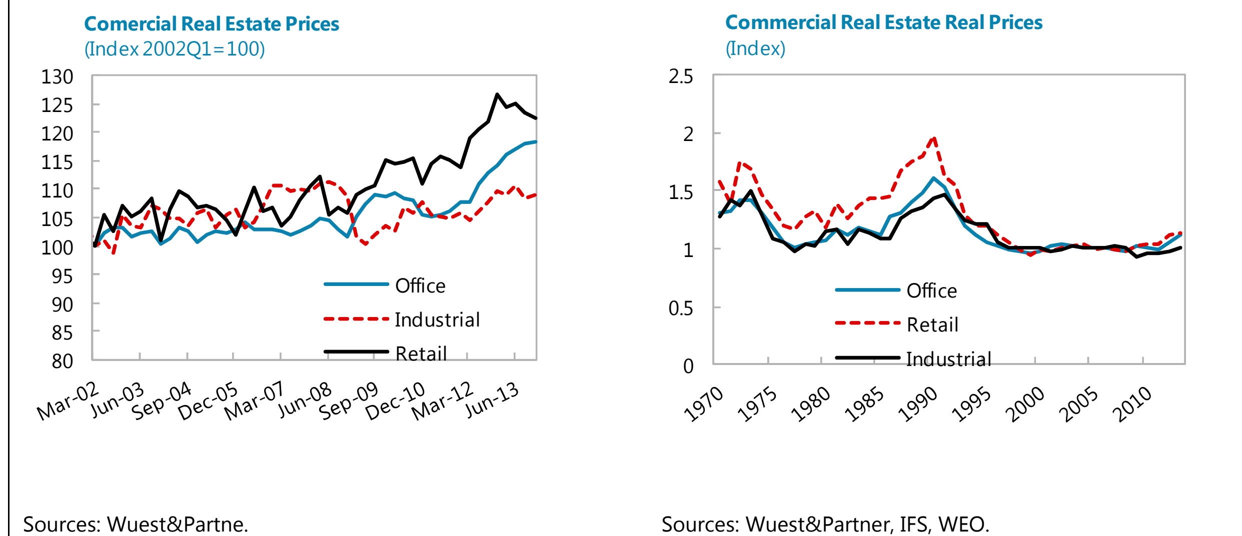
Source: Swiss National Bank.

Sources: IFS; SNB; WEO; and staff calculations.

1/ 2013 is an estimate

32. Commercial real estate prices have increased in recent years, but not dramatically, and are not high in a longer time perspective. Office and retail real estate prices have increased by 14 and 16 percent, respectively since end-2007 (Figure 5). However, deflating by the CPI it can be seen that in a longer perspective, real prices are not at a high level, and well below past peaks. Industrial real estate prices have increased much less, and have basically stayed flat in the last ten years. Still, the recent uptick in prices deserves further attention from FINMA and the SNB.

Figure 5. Switzerland: Commercial Real Estate Prices

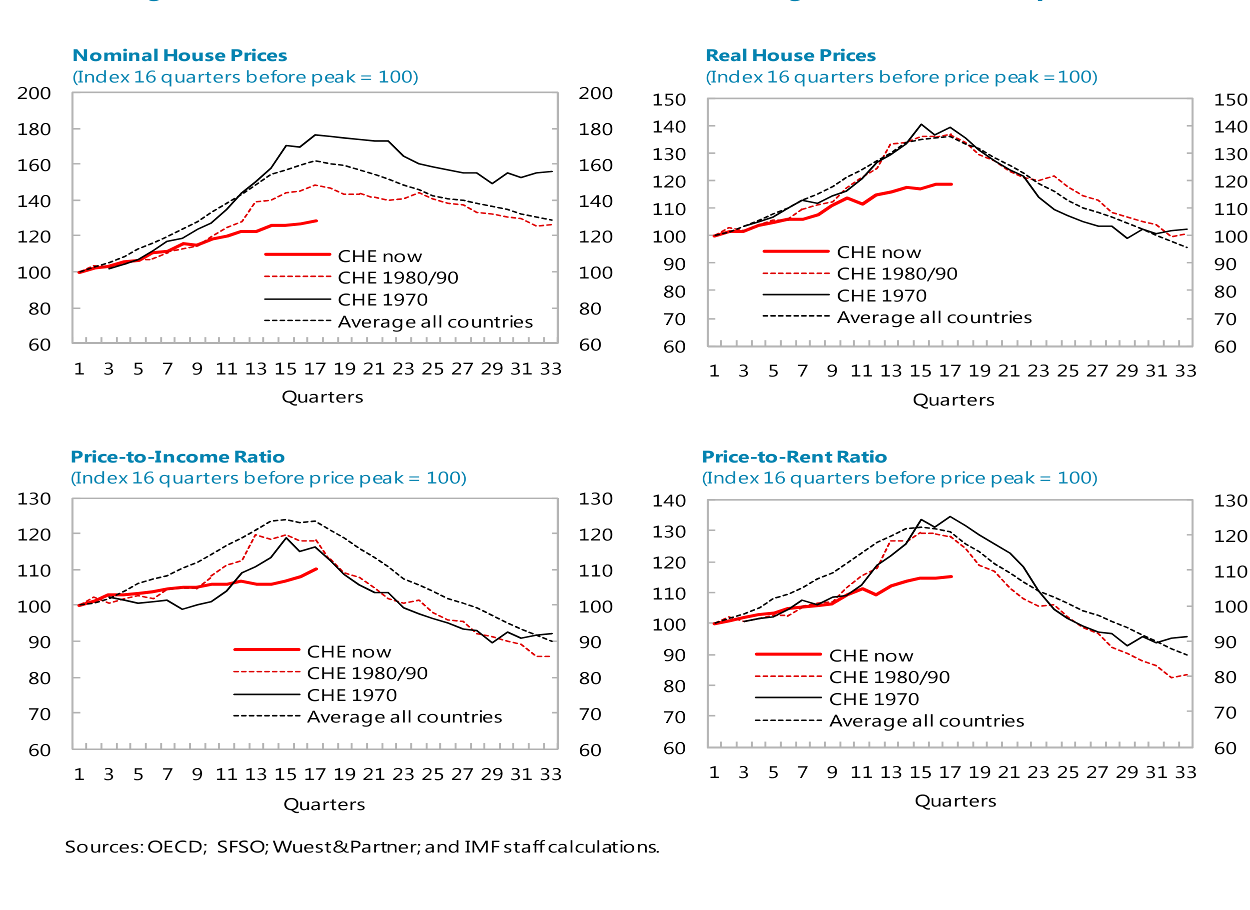


Sources: Wuest&Partne.

Sources: Wuest&Partner, IFS, WEO.

33. Current housing price developments in Switzerland compared to past boom and bust episodes suggest developments in Switzerland have been less dramatic. To get a sense of how Switzerland's most recent developments compare to past experiences, peaks after which prices declined by at least 10 percent in the coming four years were identified in a sample of 21 advanced countries over the period 1970–2012 (Figure 6). Then nominal and real prices and price-to-income and price-to-rent ratios were indexed with a base 16 quarters before the peak, and extended 16 quarters past the peak. The most recent developments in Switzerland are labeled "CHE now" and are indexed from 16 quarters back. A few observations can be made: (i) the recent growth in Swiss nominal and real house prices is more moderate than that observed in the boom phase of a typical bubble; (ii) the recent development in the price-to-income ratio, however, is not very different from the comparators, as upward trends in this ratio were overall less pronounced; and (iii) the two Swiss bust and boom episodes (early 70s and late 80s/early 90s) are quite similar to the typical bubble observed in other countries. Thus, other countries experiences are likely to be relevant benchmarks for the analysis of current trends in Switzerland.

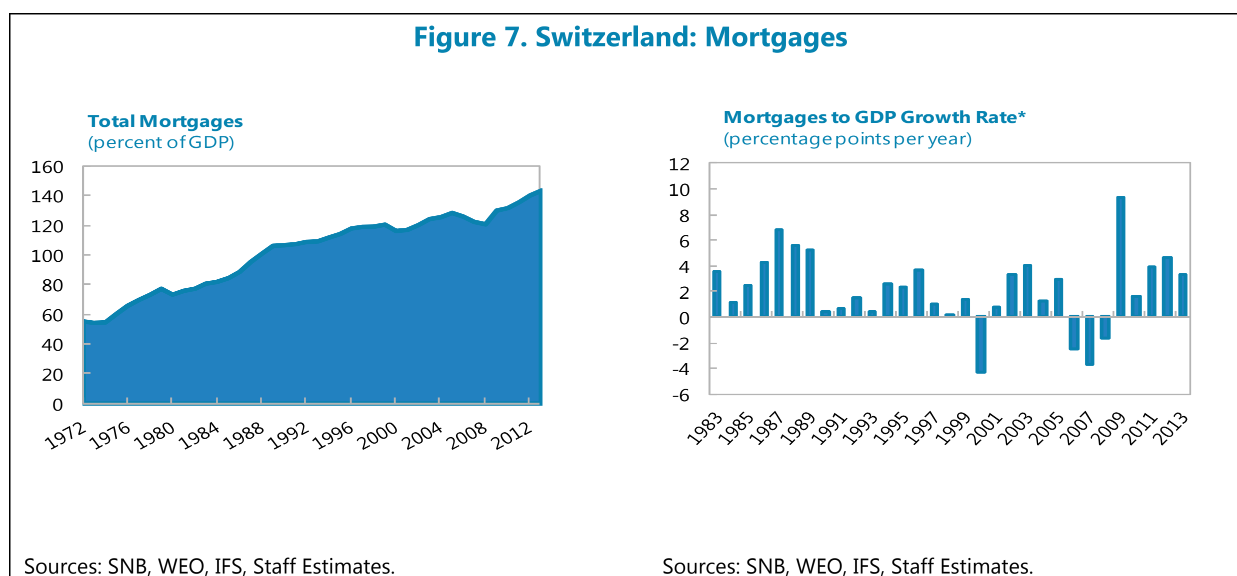
Figure 6. Switzerland: House Price Indicators during Boom and Bust Episodes



Mortgages and lending standards

34. Outstanding mortgages are at a high level compared to GDP, historically and in an international comparison. Total outstanding mortgages are at an all time high, exceeding 140 percent of GDP, and mortgages to households are almost 110 percent of GDP (Figure 7).[26] Total mortgages have increased by about 23 percentage points of GDP in the last five years, while mortgages to households have increased by about 16½ percentage points.[27] While this is a substantial increase, the average increase in the last ten years is similar to the long-term average. It is the high level of mortgage debt that stands out, both in an international comparison and compared to trend (discussed further below).

Figure 7. Switzerland: Mortgages



Sources: SNB, WEO, IFS, Staff Estimates. Sources: SNB, WEO, IFS, Staff Estimates.

35. Mortgages to businesses have been growing even faster than mortgages to households, and are mostly residential mortgages. Domestic mortgage loans to non-financial corporations have been growing by almost 5½ percent since 2008, which is almost ¾ percentage points faster than mortgages to households (Figure 8). The total amount of outstanding mortgage loans to non-financial corporations is still only about 1/5 of all mortgages. The distribution across firm size has been stable in recent years and in late 2013 mortgages to the smallest firms accounted for about 73 percent of the total, which is an increase by about a percentage point since early 2009. Most of these mortgages are for investments in residential properties and prices for those types of properties have been on a clear upward trend since the early 2000s, although prices have not yet surpassed the level reached at the peak in the early 1990s. Similarly, the price to rent ratio has steadily been increasing while remaining below historical highs. Thus, while developments may not be alarming, they deserve close attention, especially as it was prices for rental apartments that had the most dramatic boom-bust episode in the past.

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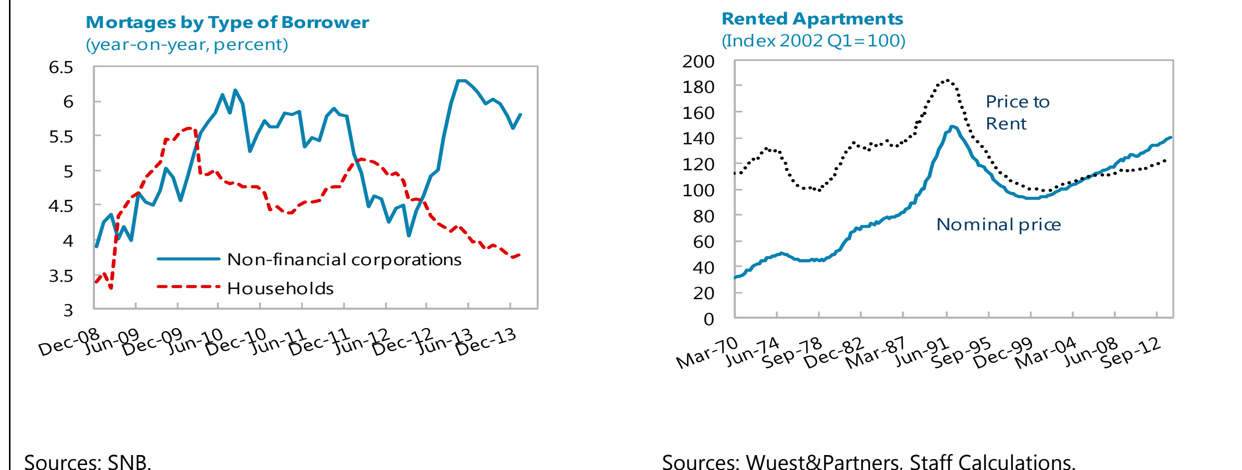
[26] Based on latest available monthly data extrapolated for 2013 in relation to WEO projection of GDP.

[27] Ibid.

Figure 8. Switzerland: Mortgages by Type of Borrower and Rented Apartment Prices



Sources: SNB.

Sources: Wuest&Partners, Staff Calculations.

36. While qualitative surveys suggest that banks' lending standards have tightened, quantitative surveys give a different picture. In spite of indications of a tightening of banks' lending standards and conditions in the context of qualitative surveys, there is no sign of a reversal of banks' risk appetite in reported loan-to-value (LTV) and loan-to-income (LTI) ratios related to new mortgages. With regard to mortgage lending for owner-occupied residential property, the proportion of new loans with high loan-to-value ratios has decreased slightly, while the loan-to-income (LTI) ratios still suggest stretched affordability. Around one fifth of new mortgages for residential real estate have LTVs above 0.8, while real estate prices have rising rapidly in recent years. What is more, reported LTI ratios indicate stretched affordability for around 40 percent of new mortgages, where the imputed costs would exceed one-third of gross income at a mortgage interest rate of 5 percent. Similarly high levels of affordability risk can be observed for residential investment properties held by private individuals, and slightly lower levels for those held by commercial borrowers. Overall, considering quantitative lending surveys in 2012 and 2013 so far, banks' risk appetite have been quite stable, i.e., there is no fundamental change in banks lending standards.

37. Mortgages in Switzerland are not of very long maturity, although it is increasing, and is expected to be rolled over. The typical mortgage is for 2-10 years with a loan-to-value ratio of 80 percent, and longer maturities are becoming increasingly popular. Borrowers are in fact often asking for maturities beyond 10 years to benefit from the low interest rates, while banks are reluctant to offer contracts with maturity longer than 8 years due to the interest rate risks in case interest rates rise.[28] Mortgages can have variable or fixed interest rates, and the latter have been favored in the current low interest rate environment. This relatively short maturity paired with high real estate prices implies that the assumption is that when the loan reaches maturity it is being

[28] Mortgages can also sometimes have a grace period of one to two years.

rolled over with a new loan. The default option is to do this with the same lender. However, as rolled over loans are new loans, the terms will be different, and the interest rate could be significantly higher if the general interest rate level rises or mortgage lending is more restrictive for some reason (e.g., being seen as riskier or more costly for banks due to regulations). At the same time, borrowers cannot repay the mortgage prematurely to refinance at more favorable conditions. The typical pace of full amortization of residential mortgages is about 20 to 30 years, and usually goes beyond retirement. However, mortgages are supposed to have a maximum LTV of two thirds at the age of retirement, and when extending mortgages, banks are expected to ensure affordability and meet minimum cost-to-income standards by taking the retirement income into consideration.

38. Foreclosure or liquidation of residential properties is based on Swiss insolvency law. Throughout the process, there are various deadlines and the debtor has the opportunity to raise an objection at several stages. A debt collection request has to be submitted to the owner at the place where the property stands. The owner then has six months to realize the payment. Only after this period can the bank submit a request for liquidation of the property. The recovery request triggers the entry of a restriction in the land register and the property will be auctioned publicly. The whole process can take several months. If the owner objects, deadlines will be suspended. Usually the bank tries to prevent public auction and to seek a solution with its client. Such a solution involves, for instance, larger amortization payments or a voluntary sale of the property by the owner Mortgage loans granted to physical persons are full recourse loans. Only loans granted to firms with limited liability are no-recourse loans, which represent a fairly small proportion of the market.

Use of pension fund assets and repayment schemes

39. Pension fund assets used for down payments is an important feature of the Swiss mortgage market. Advance withdrawal or pledging of pension assets is legally accepted for financing self-occupied real estate, and is a reflection of home ownership being a fundamental policy priority in Switzerland.[29] Pension fund withdrawals are subject to income taxes, while pledging of pension assets is not. Pledging of pension assets must be registered with the pension fund and withdrawal has to be recorded in the land register. In case the property is sold, the amount withdrawn has to be refunded.

40. Pledging or withdrawing pension funds is common, and both leave the borrower with a potential risk of lower retirement income. According to a recent survey 2nd and / or 3rd pillar funds or pledges were used for about 30 percent of all outstanding mortgages.[30] Naturally, this can ultimately lead to reduced pension payments, which should not be ignored, and the client must be made fully aware of this risk. Banks' risk managers furthermore do typically not have information

[29] Article 108 of the Federal Constitution states that "The Confederation shall encourage […] the acquisition of the ownership of apartments and houses for the personal use of private individuals…"

[30] Yvonne Seiler Zimmermann:"Auswirkungen der neuen Eigenmittel-Mindestanforderung auf den Hypothekarmarkt" Die Volkswirtschaft Das Magazin für Wirtschaftspolitik 10–2012; and "Nutzung von Vorsorgegeldern zur Finanzierung von selbstgenutztem Wohneigentum – Eine deskriptive Analyse," Zug: IFZ – Hochschule Luzern, 2013.

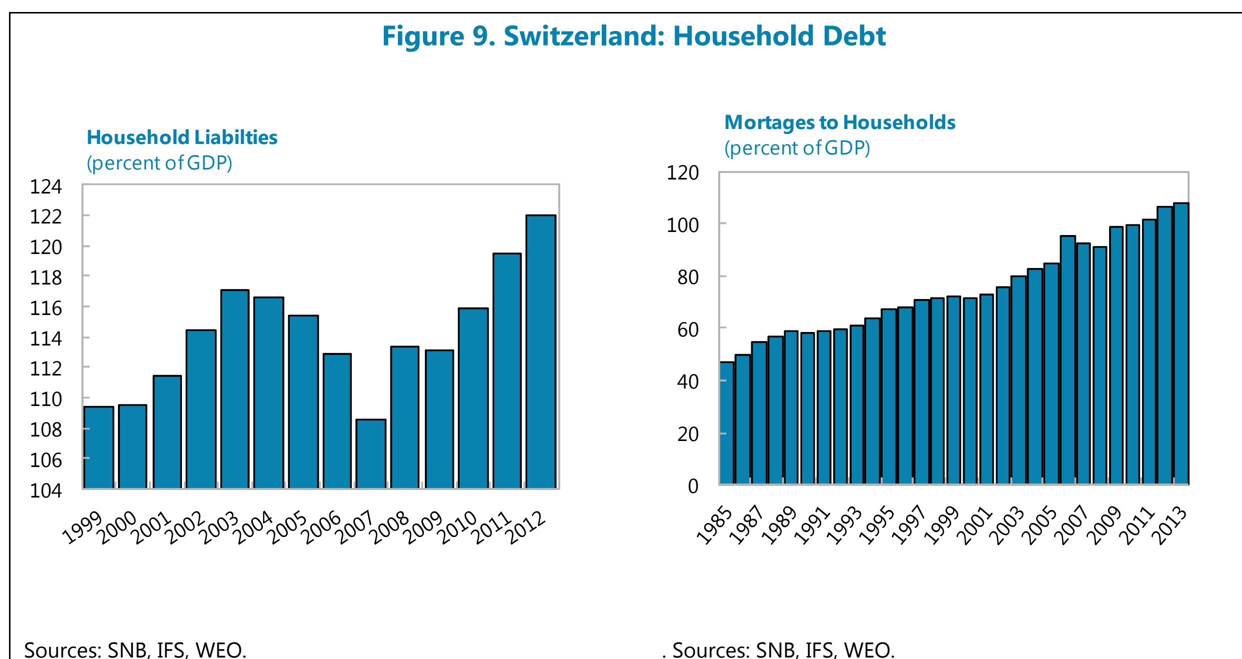
about the use of pension fund assets, but look at the complete asset picture of borrowers, and that is why analyses of the use of pension fund assets and related issues have to rely on surveys to collect data.

41. Indirect amortization schemes have favorable tax treatment. Indirect amortization is paid into a special banking account or as set out in an insurance policy (Pillar 3a private pension). The account or policy is pledged for the benefit of the bank financing the mortgage and the funds cannot be invested by the borrower. Contributions can be deducted from the taxable income (up to the statutory maximum amount). No wealth, income or withholding tax is due throughout the entire term of the savings plan. On the date of the payout, the capital is taxed at a reduced rate, separately from the rest of the client's income.

Household debt

42. With rising mortgage lending, high household debt has risen further, although not dramatically. Aggregate balance sheet data shows that while total liabilities were almost 122 percent of GDP in 2012, it is not dramatically higher than earlier in the decade (Figure 9). However, from 2007 it increased by 13½ percentage points, or by more than 2½ percentage points per year. It, furthermore, seems likely that the increase has continued in 2013 as mortgages to households have increased further. At the same time household assets have also increased, and net worth as a ratio to total assets has been fairly stale around 80 percent despite the increasing mortgage debt. However, the increase in assets has been largely driven by real estate appreciation, which potentially could reverse quite rapidly.

Figure 9. Switzerland: Household Debt



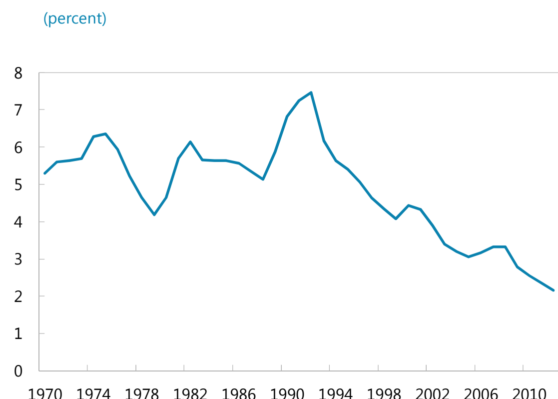
Sources: SNB, IFS, WEO.

. Sources: SNB, IFS, WEO.

43. Similarly, while debt service is not a major problem for most households, this could change if interest rates shoot up from the currently very low levels. As discussed above, house prices have certainly increased compared to income, which suggests that households have to take out larger mortgages to finance buying a home. At the same time average mortgage rates have been falling to low levels, and this trend could reverse as it did in the early 1990s (Figure 10). In particular household at lower income levels which are entering a relatively hot real estate market could be vulnerable. However, there is very little data on the soundness of household finances to directly asses their resilience to shocks. That type of analysis has to rely on granular information on the banks' mortgage lending portfolio, including loan-to-income and loan-to-value distribution, residual loan maturities, and repricing maturity.

Figure 10. Switzerland: Weighted Average Mortgage Rate

(percent)



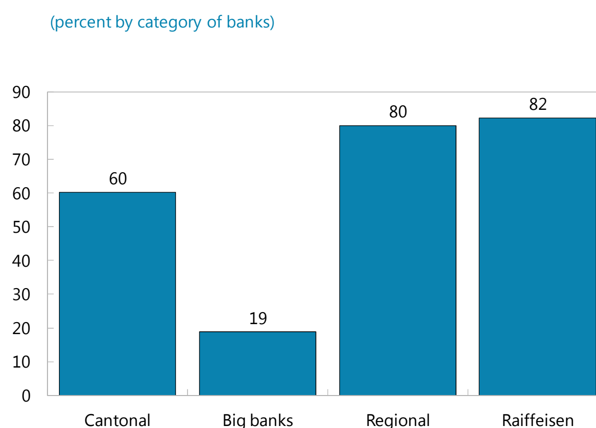
Sources: SNB, Staff Calculations.

Banks' concentration and interest rate exposure

44. Many banks have mortgage loans as a large share of their assets and could be vulnerable to shocks to the real estate and mortgage markets. Cantonal banks have about 60 percent of their assets in mortgage loans, and in regional and Raiffeisen banks the share of mortgage loans is about 80 percent (Figure 11). Of the major categories of banks, only the (two) big banks have a smaller share of their assets in mortgage loans at about 20 percent. Naturally, the mortgage loans in the banks' portfolios are heterogeneous, but it is quite clear that large segments of the Swiss banking sector are potentially quite vulnerable to a sharp deterioration in the quality of mortgage loans. In fact, the mortgage portfolios are often geographically concentrated as well, further increasing

Figure 11. Switzerland: Share of Mortgage Loans in Total Balance Sheet

(percent by category of banks)



Sources: SNB, Staff Calculations.

concentration.[31] The SNB has also flagged this concentration risk in their latest FSR where it is noted that "the low level of diversification of most domestically focused banks, reflecting in particular their strong focus on the mortgage market, is largely disregarded by capital requirements." While this is generally true, FINMA, nevertheless, has powers to address concentration by imposing additional capital requirements if deemed necessary, e.g., due to high concentration risk in an institution. FINMA has used these powers already for individual banks of particular concern, based on results from on- and offsite reviews as well as from real estate stress tests performed for important domestically focused banks.

45. Another risk faced by banks engaged in mortgage lending is interest rate risk, which currently is high for domestically oriented focused commercial banks. Based on exposures as of mid-2013, the SNB estimates that if the general level of interest rate were to increase by 200 basis points, the net present value of these banks would decline, on average, by 15.2 percent of their 2012 Tier 1 capital.[32] Interest rate risk is part of the Pillar II regime in Switzerland and analysis of capital adequacy and possible capital surcharges are part of FINMA's supervisory powers. However, in Switzerland as in most countries, higher interest rate risks do not currently translate automatically into higher capital requirements.

RECENT MACROPRUDENTIAL POLICIES

46. To prevent risky imbalances and ensure adequate buffers the authorities have taken measures. In 2011, the Swiss Bankers Association (SBA) revised its guidelines governing the examination, valuation and treatment of mortgage-backed loans, and formulated specific qualitative requirements. This self-regulatory measure had little impact on lending activity, and FINMA therefore called for the introduction of more far-reaching quantitative rules.[33]

- New requirements for mortgage financing were drawn up by the Swiss Bankers Association as minimum regulatory standards and were recognized as supervisory minimum standards by FINMA.34 The standards for new transactions consist of: (i) a minimum down payment of 10 percent of the lending value of the property from the borrower's own funds, which may not be obtained by pledging or early withdrawal of Pillar 2 pension assets; and (ii) mortgages must be paid down to two thirds of the collateral value within a maximum of 20 years.

- The Federal Council changed the Capital Adequacy Ordinance (CAO) for banks to requiring banks to apply a risk weight of 100 percent for the entire loan amount of mortgages which do not comply with the new minimum standards.

[31] Most cantonal banks cannot extend loans beyond the territory of their canton.

[32] See Chart 13 in the 2013 FSR for calculation based on end-2012 exposure data.

[33] FINMA 2012 Annual Report.

[34] Recognition of self-regulation implies that auditors should examine compliance with the minimum standards.

- The CAO was changed such that mortgages exceeding 80 percent of the property value will have a risk weight of 100 percent (up from 75 percent) applied to the part of the loan exceeding the 80 percent threshold.

- FINMA tightened rules for risk weighing mortgages by requiring banks using an internal ratings-based approach to apply a bank-specific multiplier when calculating risk-weighted assets for Swiss owner-occupied residential mortgages. The multiplier is to be applied to new and renewed mortgages.

The first two measures have been phased in since mid-2012, and the third and fourth measures went into effect at the beginning of 2013.[35]

47. In addition, the Federal Council decided to activate the CCB in February, 2013, on the proposal of the SNB. The February 2013 decision implied that banks had to hold a CCB of 1 percent of their risk weighted, direct or indirect, mortgage-backed positions secured by residential property in Switzerland by September 30, 2013. At that time FINMA did not support the activation, and stated in a press release that they would have preferred to wait and see if the other measures would have an effect on mortgage lending growth.[36]

48. The SNB factored in a number of considerations before submitting the proposal to activate the CCB was submitted to the Federal Council.[37] It was noted that the residential mortgage and real estate market had been growing rapidly for several years and that this trend was likely to continue. What is more, these trends had not weakened despite the introduction of revised self-regulations for mortgage financing in July 2012. The SNB also saw little scope for raising monetary policy rates from the currently very low levels, suggesting that the real estate and mortgage markets would likely continue to grow, underscoring the need for macroprudential policies to address financial stability concerns. That some of the measures announced mid-2012 took effect only at the beginning 2013 was not seen as enough to hold back with activation of the CCB.

49. All in all, the judgment was that imbalances which could threaten financial stability in the medium-term were building. Thus, the SNB deemed it as necessary to act early to increases the resilience of the banking sector. The CCB would also dampen the momentum of further build-up of the imbalances by making mortgage lending more costly for banks. The SNB has also pointed out that risk-weighted capital ratios only partially account for the build-up of imbalances on Swiss

[35] Mortgages granted by insurance companies are not covered by these rules. Detailed qualitative and quantitative criteria for mortgage lending by insurers involving tied assets have been in force since 2006.

[36] There is currently no reciprocity by other countries for exposures in Switzerland as envisaged by Basel III. However, in the view of the Swiss authorities the sectoral nature of the imbalances reciprocity at this time would not provide additional benefits as "foreign" branches are not active in the Swiss mortgage market.

[37] SNB Press Release, February 13, 2013 "Countercyclical capital buffer: proposal of the Swiss National Bank and decision of the Federal Council."

mortgage and real estate markets,[38] as the domestic residential mortgage market is dominated by banks applying the standard approach for risk weighting. This implies that the LTVs and the type of property are only partially reflected in capital requirements, and the borrower's creditworthiness is not taken into account. By reevaluating the collateral as real estate prices rise banks can also reduce the amount of capital required to for their mortgage portfolio.

50. The imbalances and risks were seen as less elevated than during other boom and bust episodes, and the CCB was set below the maximum.[39] The buffer level is set proportionally to the degree of imbalances that appear to be developing within the system, as measured by a set of key indicators of domestic mortgage volume and domestic residential real estate prices. A comparison of indicator behavior during previous crisis periods both internationally and in Switzerland are used to map the build-up of imbalances to an appropriate buffer level. The SNB specifically noted that "imbalances are still smaller than those immediately prior to the onset of the real estate and banking crisis at the end of the 1980s." As discussed in Box 2, the activation of the CCB and the level of the buffer were also broadly in line with Basel Committee on Banking Supervision (BCBS) guidance, although this guidance specifically applies to total credit to the economy, not only mortgages.[40]

51. The effects of the various measures seem to have been limited so far. Year-on-year, price increases have moderated, but that trend started in 2011, i.e., well before the recent regulatory measures and the activation of the CCB (Figure 12). Mortgage lending to households have also been on a downward trend, but in that case the slowdown is small.

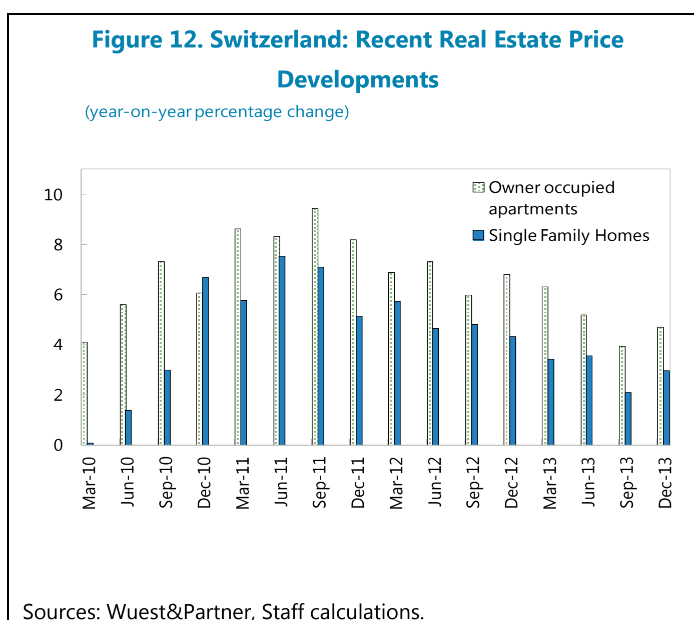


Figure 12. Switzerland: Recent Real Estate Price Developments

Sources: Wuest&Partner, Staff calculations.

52. Consequently, to further counter the build-up of imbalances the CCB was increased to 2 percent effective end-June 2014. The increase in the CCB was announced in January 2014. In the view of the SNB, the imbalances on the Swiss residential mortgage and real estate markets had increased further since the Federal Council activated the CCB in February 2013. It was noted that the CCB had some effect to motivate several banks, including some larger banks, to implement capital measures, and mortgage

[38] FSR 2013 page 24.

[39] The maximum level of 2.5 percent for the CCB relates to total domestic risk weighted assets while the CCB that was activated is sectoral, targeted directly at imbalances developing in the domestic mortgage and real estate market.

[40] Basel Committee on Banking Supervision, 2010, "Guidance for National authorities Operating the Countercyclical Capital Buffer," Bank for International Settlements, Basel.

lending growth and residential property prices increases had been somewhat lower. However, the SNB deemed that imbalances had nevertheless kept increasing, adding that "in an environment of persistently low interest rates, coupled with banks' continued appetite for risk, the danger that imbalances will build up even more unless additional countermeasures are taken is considerable."

53. Turning to banks' behavior directly, the Swiss authorities have noticed some effects, though the magnitudes seem fairly small. They have observed several banks, including some with large mortgage exposures that have increased their capital, at least in part as a response to the activation of the CCB and the other measures. Still, at a system level the capital adjustments have been small as domestically oriented banks were already well capitalized. Furthermore, the measures taken were relatively mild. The increase of the risk-weight with an LTV above 80 percent only applies to the portion of the loan above that ceiling, and the CCB of 1 percent for residential real estate mortgages is not that demanding. The more stringent requirement for financing from own funds other than pension assets may have had some effect, but according to the authorities' estimates it would only have been binding for about 5 to 10 percent of new mortgages in recent years, resulting in perhaps a modest 0.6 percentage point decline in mortgage lending growth. SNB's mortgage lending surveys also suggest some effect as banks' reported exception-to-policy for new mortgage lending did indeed decline in the second half of 2012 after the new self-regulation came into effect. However, since then, there has been no significant tendency with respect to banks' exception-to-policy.

Box 2. Credit Gap and The Counter Cyclical Buffer

The BCBS guidance sets out five principles:

(1) Decisions guided by the objective to protect the banking system against potential future losses when excess credit growth is associated with an increase in system-wide risk;

(2) Credit to GDP is a useful common reference point in taking buffer decisions;

(3) Mindful of factors that can give misleading signals;

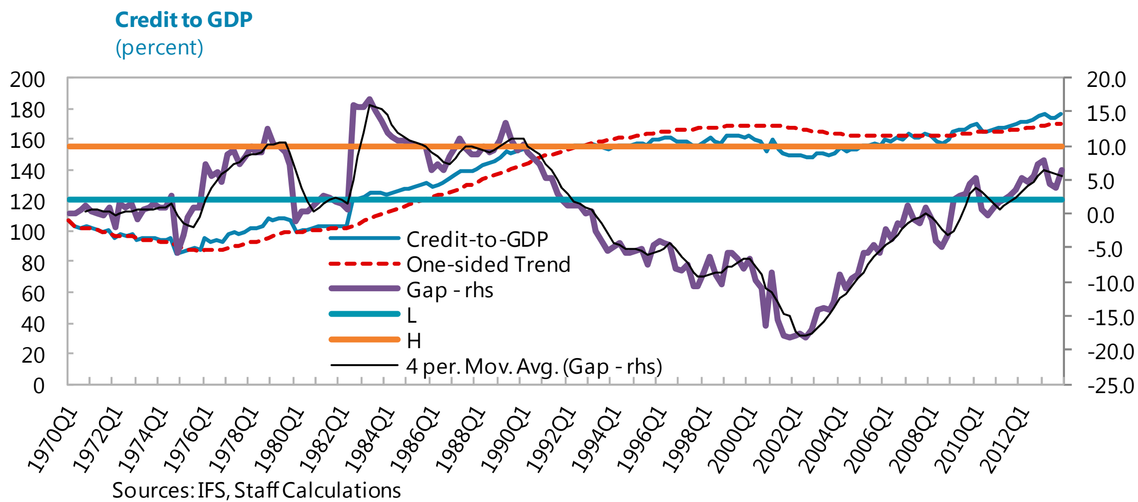
(4) Prompt release in times of stress; and

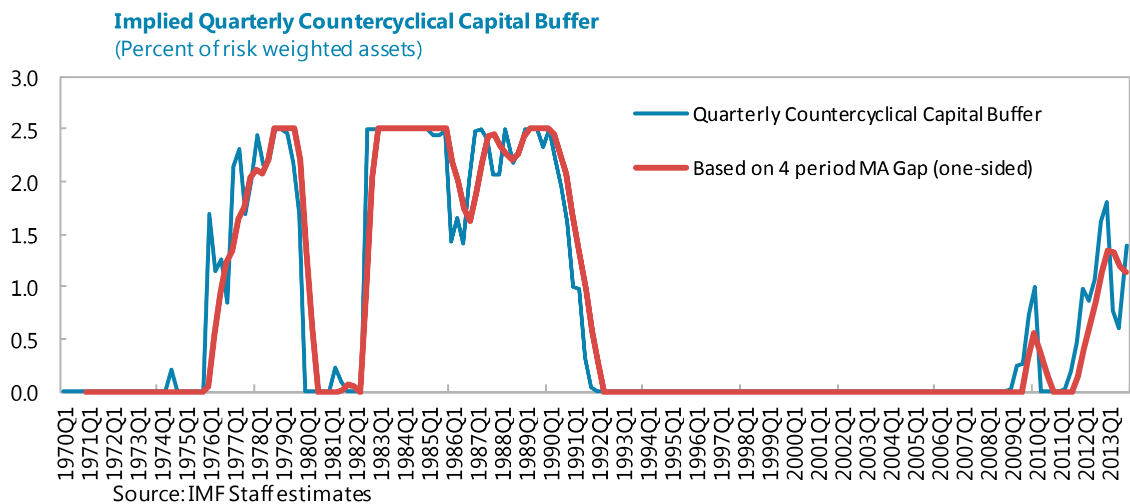
(5) The buffer is an important instrument in a suite of macroprudential tools.

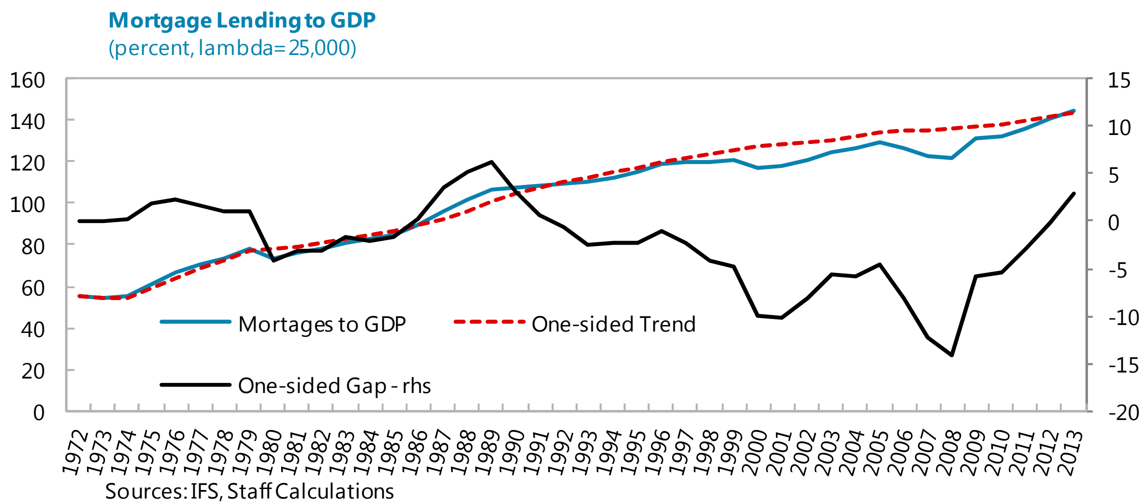
The guidance also provides a method and metric for calculating the credit gap and mapping it to specific levels CCBs. In a nutshell the credit gap is calculated by measuring the deviation of the actual credit to GDP ratio from the underlying trend estimated by applying a one-sided Hodrick-Prescott filter. Through empirical analyses, the BCBS recommends using a very large smoothing parameter (lambda = 400,000 for quarterly data), and using this precise method the CCB should be activated when the credit gap is about 2 percentage points, and should be maxed out (to 2.5 percent) at a credit gap of 10 percentage points. (The BCBS does not suggest that this metric should be mechanically followed, but should be used together with other assessments and analyses).

Applying this method to Switzerland suggests a level of the CCB on total credit of 1 to 1 ½ percent (Figure 13). However, it should be recognized that the current Swiss CCB applies to mortgages only, and looking at mortgages, applying the same method (on annual data to get a long series), shows that there is a steadily widening gap, despite the measures taken. Thus, this simple statistical analysis suggests that activation of the CCB was appropriate, and the further increase seem prudent in light of the continued growth in mortgage lending.

Figure 13. Switzerland: Credit to GDP Trends and Cycles







54. While not part of macroprudential measures, tax policies to promote home ownership have significant impact on the demand for mortgages. For residential property in Switzerland the imputed rental value (i.e., the equivalent rental value of owner-occupied property) is fully taxable, while at the same time value-preserving maintenance costs, certain operating costs, value-enhancing energy measures and paid mortgage interest are tax-deductible. As a result the tax system, through the deductibility of mortgage interest, incentivizes households to take out mortgages.

ASSESSMENT AND RECOMMENDATIONS

Framework

55. The current macroprudential framework appears to work relatively well, although it has not really been tested since the recent reforms. The authorities have monitored developments in real estate and mortgage markets and identified risks, which have led to a number of actions to address concerns about emerging imbalances. These actions have been coordinated through the committees formed under the terms spelled out in the MOU between the FINMA and the SNB. In parallel, new TBTF legislation and regulations have been passed and are being implemented to reduce the financial stability risks stemming from the largest and systemic banks.

56. Still, some reforms could be considered to strengthen the macroprudential framework. In general, an effective institutional framework can facilitate timely and forceful action, although it must be recognized that there is not one specific international best practice model. Various solutions can work in different circumstances and traditions, It is nevertheless worthwhile to review institutional arrangements for macroprudential policies in Switzerland as there seem to be some room for reform in terms of mandates, tools, coordination of overarching strategies to address financial stability concerns, involvement of all agencies, and transparency.

57. Currently, powers and capacities related to macroprudential risk analyses and policies are spread across institutions. Thus, the FINMA, the SNB, and the FDF have to cooperate closely to ensure an overarching policy line to ensure financial stability. It is not obvious that the current structure, with committees and working groups based on two MOUs, is efficient and adequately covers the needed cooperation. It is clear which agency has the power and responsibility for a specific policy instrument, but it is not clear which agency that has the responsibility for the financial stability outcome which multiple instruments address, for example systemic risks related to mortgages and real estate.[41]

[41] The existing MOU between the FINMA and the SNB does not express a clear objective for the steering and standing committees to address macroprudential risks and policies, but is more focused on technical collaboration between the FINMA and the SNB (e.g., the formation of working groups). The tripartite MOU is focused on coordination in the event of crisis and exchange of information.

58. Thus, in a medium-term perspective, macroprudential arrangements should be reviewed and placing responsibility and powers for macroprudential policies with one institution or committee should be considered. Some further clarification of the overall responsibility could be helpful and the institutional arrangements could be reviewed in the light of other countries' experiences. Indeed, while best practices in the macroprudential policy field are still emerging, and alternative institutional arrangements can work, one clear conclusions from the IMF board paper "Key Aspects of Macroprudential Policy" was that "To strengthen 'willingness to act' it is important that the macroprudential mandate is assigned to someone, a body or a committee."[42] This body or committee could then be given powers to recommend changes in macroprudential regulations paired with appropriate formalized processes for involving relevant agencies. Given the current strong role of the SNB for the CCB, it seems natural that it should remain important in the macroprudential framework.[43]

59. Adding tools to the macroprudential toolkit should also be considered over the medium-term. To fulfill a macroprudential mandate, adequate macroprudential tools to address systemic risks are necessary. Currently the CCB is available, but additional tools should be considered as the CCB is only one component of an effective policy mix.[44] Specifically, LTV[45] and LTI caps would be important complements, and tools to contain liquidity and foreign exchange mismatches could be needed as well.

60. Some changes and reforms to the current arrangement could be made in a more near-term perspective. (i) Transparency and accountability could be strengthened by highlighting cross agency activity and policy analysis related to financial stability and macroprudential policies to the public. (ii) The FDF could be more directly involved in macroprudential policy discussions, given the government's powers and interest. (iii) Information exchange among FINMA, the SNB and the FDF could be expanded. (iv) The financial stability analyses conducted by the SNB and FINMA could be deepened and broadened. These points are discussed further below.

61. Transparency and accountability could be strengthened by highlighting cross agency work done on financial stability and macroprudential policies to the public. Currently, it is not easy for the public and outside observers to know the extent and nature of the coordination between the FINMA and the SNB (or the FDF), to fully understand how the authorities see risks to financial stability, or to have good sense of the overall strategy and policy considerations. It would therefore be welcome to have a coordinated account of the activities under the existing MOUs regularly made available to the public and to the parliament, in particular given the importance of

[42] For further discussion, see also IMF, 2011, "Macroprudential Policy: An Organizing Framework" (Washington: International Monetary Fund).

[43] It is also is in keeping with the conclusions of the board paper on Key Aspects of Macroprudential policy to generally have the central bank in a strong or leading role.

[44] The effectiveness and complimentarity of macroprudential tools are discussed in IMF, 2013, "Key Aspects of Macroprudential Policy – Background Paper."

[45] Caps on the share of high LTV loans can also be considered.

financial stability in Switzerland. The reporting should cover discussions of financial stability and also describe policy assessments and recommendations. The report of the Financial Stability Working Group was issued jointly by the three agencies and described the financial stability context and concrete recommendations. It had all three agencies involved at different levels and addressed a concrete macroprudential concern with concrete policy proposal that was clearly laid out and motivated in a public report. And, this result was reached despite diverging views on various issues. It sent a strong signal that macroprudential policy is a policy priority and that the three agencies are working together for financial stability.[46]

62. Given the government's powers and interest, the FDF should be directly involved in macroprudential policy discussions. In some ways, the Federal Council is currently the *de facto* macroprudential authority. It makes the decision if the CCB will be activated or not, and it makes decisions about changes to ordinances (e.g., important decisions about important changes to the CAO to enforce bank self regulation).It seems it would be natural to include the FDF in the MOU on financial stability. The government is already directly involved in many aspects of financial sector stability policies, and having the FDF represented should therefore not raise major concerns about increased powers of the government and less independence of the other institutions.[47]

63. Communication practices of individual agencies could be better coordinated. Some differences in views across agencies are natural and it is not necessarily bad if these differences are publicly known. However, it is also important that the public can understand what the position of the different agencies is and what he overall strategy is. For example, the latest 2013 FSR is making quite strong comments regarding the regulations of concentration and interest-rate risks, and it would then be relevant to understand how FINMA, and possibly the government, sees this issue. It is also not clear that the communication surrounding the first activation of the CCB could not have been coordinated more effectively.

64. Exchange of information is critical for analyses and coordination of policy responses both in normal times and during crises. As explained above, the Financial Stability Working Group found that the SNB has limited direct access to information, and recommended (with FINMA's reservation) "[t]he creation of a right to direct access for the Swiss National Bank (SNB) to information on financial market participants which goes beyond its existing entitlement to statistical data." Given the SNB's significant role in financial stability analyses and policies it seems reasonable to expand information sharing with the SNB regarding financial market participants (which is not already obtained by FINMA and is critical for financial stability mandate). Likewise, the ability of the FDF to effectively engage and make sound decisions would benefit from allowing further

[46] Macroprudential policies could be supported by a simple governance framework and a secretariat would help coordinating the meetings, the agenda, and background material, and keep records.

[47] This is not to say that government power and independence of agencies should not be seen as a concern in general. As noted in the BCP assessment there are some moves in parliament to transfer FINMA's power to set general Pillar 2 capital buffers for groups of banks to the federal council, which may have macroprudential relevance, and this would be counterproductive for the safety of the banking system.

information sharing with the FDF when it can be motivated by its role in supporting financial stability. Therefore, the draft financial market infrastructure legislation, FinfraG, strengthens information exchange among FINMA, the SNB, and the FDF, which is welcome.

65. The financial stability analyses conducted by the SNB and FINMA could be deepened and broadened. Currently, as discussed above, the knowledge about household finances and balance sheets is quite limited and the current environment surely motivates stepped up efforts to deepen the analysis, also including households' use of pension fund assets to finance real estate. This may require some additional data collection needs, but that could be an investment worth making. Finally, the analyses and the reporting of the systemic importance of non-banks, including data collection, to the extent needed, could be expanded.

Measures to address risks related to real estate and mortgage markets

66. The measure to address rising concerns about the growing housing and mortgage markets are welcome, but further action may be warranted. Some moderation in price increases have been observed in the most recent data, but mortgage indebtedness is still steadily increasing. It is not possible to determine if there has been a trend-break, and since interest rates are still very low and likely to stay that way, the authorities should stand ready to take further measures if pressures remain. Options include further demands on down payments, in particular as quantitative lending surveys show limited reduction in the LTV ratios for new mortgages. Increased capital requirement for high LTV loans (e.g., not only applying to the portion of the loan above the threshold) should also be considered.

67. The recent decision to increase the CCB is welcome, but additional measures and expanded coverage appear needed to address real estate and mortgage risks. Recent measures seem to have had limited effect. Housing price increases have decelerated somewhat, but mortgage lending growth continues and quantitative lending standards show little improvement.

- Existing measures, partly based on self regulation, must be fully enforced and could be tightened to materially change lending standards (including by strengthened guidance to auditors and stepped up own on-site inspections to hold banks fully accountable for all violations of macroprudential limits, and larger capital requirements for high LTV loans as the increase of the risk-weight with an LTV above 80 percent only applies to the portion of the loan above that ceiling).

- Some measure targeting affordability should be considered, i.e., some Loan-to-Income (LTI) limitations.[48] While, in Switzerland, developments in household debt have not been dramatic it is high and the quantitative lending surveys show no reduction in LTI ratios. LTI limitations could be a very useful complement to existing measures in targeting weaker borrowers and containing

[48] See IMF, 2013, "Key Aspects of Macroprudential Policy – Background Paper" for a discussion of a discussion of Debt-to-Income and LTV limits, other measures, and the complementarity of the measures.

unaffordable and unsustainable increases in household debt. They also tend to be less pro-cyclical than LTV caps.[49]

- In the absence of clear effects the authorities should issue its own regulations targeting the demand side, for example LTV and DTI limits.

- Mortgages to businesses and for commercial purposes deserve increased attention to identify emerging risks, as this lending have recently further picked up, and measures targeting this segment should be introduced. Possible measures to improve commercial real estate lending standards include broadening the scope of the CCB, lowering LTVs for corporate borrowers, and tighter risk weights including IRB based weights.

- Increased capital requirements for borrowing secured by real estate in certain regions or areas could also be considered in cases where developments are assessed to be risky and a correction would have systemic consequences. However, such risks are also being addressed by Pillar 2 measures for individual banks that are particularly exposed, which can be more effective and easier to implement.

- Measures to address concentration risk and interest rate risks should be part of the macroprudential policy discussion as these risks have increased following the expansion of mortgage portfolios in a low interest rate environment.[50] [51]

- Attention should be given to consistency of measures across mortgage originators (banks and nonbanks).

68. Going forward, criteria for exiting the CCB should be discussed by the authorities. For the CCB to work properly, it will be important to let banks use the extra capital as financial conditions change and credit growth is depressed, but the timing and speed of a loosening could prove to be difficult to decide. Regulators are naturally likely to be cautious about reducing capital requirements, while timely and decisive deactivation is desirable to avoid pro-cyclicality and let the

[49] There is cross-country evidence that DTI limits can be effective in curbing real estate and mortgage booms (e.g., Lim, Columba, Costa, Kongsamut, Otani, Saiyid, Wezel, and Wu, 2011, "Macroprudential Policy: What Instruments and How to Use Them? Lessons from Country Experiences," IMF Working Paper No. 11-238; Igan and Kang, 2011. "Do Loan-to-Value and Debt-to-Income Limits Work? Evidence from Korea," IMF Working Paper No. 11-497; Kuttner, and Shim, 2013, "Can Non-Interest Rate Policies Stabilize Housing Markets? Evidence from a panel of 57 economies," BIS Working Papers No 433).

[50] The BCP assessment noted that guidance and/or instructions to regulatory auditors need to be expanded to ensure that relevant concentrations are picked up appropriately in banks' risk management processes and are supervised correctly by statutory auditors on FINMAs behalf.

[51] According to the BCP assessment, interest rate risks seem to be well managed by banks although FINMA's review of these risks could be enhanced. Mid-size and smaller banks, for whom interest rate risk can often be a major issue to be managed, showed a degree of awareness and ability to manage the risk that is necessary (CP 2123).

release have the intended effect.[52] In addition, the CCB could be more thoroughly motivated and explained by the SNB. The information and explanation that were sent out as the decision was made were quite general and vague in terms of the analytical justification for the activation. To have a more thorough communication to the public would be appropriate, and enhance the credibility and signaling effect of the policy. It seems that could be accomplished without SNB boxing in itself for future decisions by disclosing the most detailed quantitative considerations.

69. The tax incentives for taking on large mortgages should be reconsidered. There is no dispute that the current tax regime gives strong incentives for households to take on more mortgage debt than they otherwise would, and also to use pension Pillar 2 and 3a assets for down payments. This is not a direct explanation for the recent mortgage growth, as this regime has been in place for a long time, but it still contributes to high levels of mortgage debt. Although it would politically very hard to do, and has been tried, reform should be part of the agenda. The IMF has consistently advised to reform the system, by phasing out the existing tax incentives, while at the same time phasing out taxation of imputed rents, designed to be revenue neutral if needed. Removing tax incentives in favor of mortgage debt are furthermore consistent with the findings of the board paper on Key Aspects of Macroprudential Policy.

[52] See IMF, 2013, "Key Aspects of Macroprudential Policy – Background Paper" for a discussion of CCBs, including the release.