Executive summary

History shows quite clearly that financial crises can have very significant negative consequences for economic development. The effects are both extensive and prolonged when banks, companies and households phase out large parts of the financial imbalances built up over time. The ongoing global financial crisis that culminated in the fall of 2008 is the latest and perhaps most dramatic example.

In the wake of the financial crisis, researchers and policy makers have discussed what measures can be taken to counteract the occurrence of financial imbalances, in order to prevent the emergence of financial crises.[1] Both the debate and the importance of the matter indicate that a new policy area is emerging.

A concrete result of the crisis and the ensuing discussion is the development of new international financial regulation framework, Basel 3. This framework has the overall aim of strengthening banks' resilience to losses, in order to reduce the probability of bankruptcy and hence of new financial crises. An important part of the new framework is the introduction of a number of new regulatory instruments, such as the liquidity coverage ratio and countercyclical capital buffers. The European Union's capital requirements regulation includes also a provision where it is stated that each Member State has to determine who should be responsible for the new instruments.

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[1] There is also a similar discussion with respect to how crises arisen are to be managed; this is not addressed in this report.

Clear guidelines for financial stability policy are needed in order to establish this new policy and manage the instruments in a balanced manner. This report contains a survey of the existing literature and an analysis of the objectives, instruments and policy impact of these instruments on the economy. It is hoped that this report can provide guidance in the choice and formulation of policy targets and instruments.

Possible targets for this new policy

There are three main potential objectives for this new policy (see Table 1 below).

Table 1: Alternative targets for this new policy

	Target	Target variable	Term
1	Stabilise the business cycle	Aggregate supply / Aggregate demand	Stabilisation policy*
2	Stabilise the credit market	Supply of credit / Demand for credit	Financial stability policy
3a	Stabilise the banking system	Supply of credit	Macroprudential policy
3b	Improve banks' resilience	Maintain basic functions	Structural macroprudential policy

* A target of type 1 is not a target for a new policy. The policy in this case becomes a part of the existing stabilization policy, i.e. it functions primarily as a complement to monetary policy.
Source: Own illustration

The first type of target (target 1) means that the instruments are used to stabilize the business cycle, implying that the policy will be a complement to the existing stabilization policy and that it will not be a new policy area of its own. The second type of target (target 2) is to stabilize the credit markets by preventing build-up of financial imbalances that could otherwise have a material adverse impact on credit supply and credit demand, and thus on the real economy.[2] The third type of target (target 3) is to stabilize the credit supply by strengthening, protecting and stabilizing the banking system through improved supervision. Target 3a addresses both the structural problems in the financial system through enhanced regulation of financial institutions and the cyclical problems using time-varying buffers to adjust the resilience of the financial institutions during the financial cycle. Objective 3b addresses only the structural problems.

The choice of targets for this new policy will depend on the lessons learned from the financial crisis and which problems the policy should address.

Which problems will the policy address?

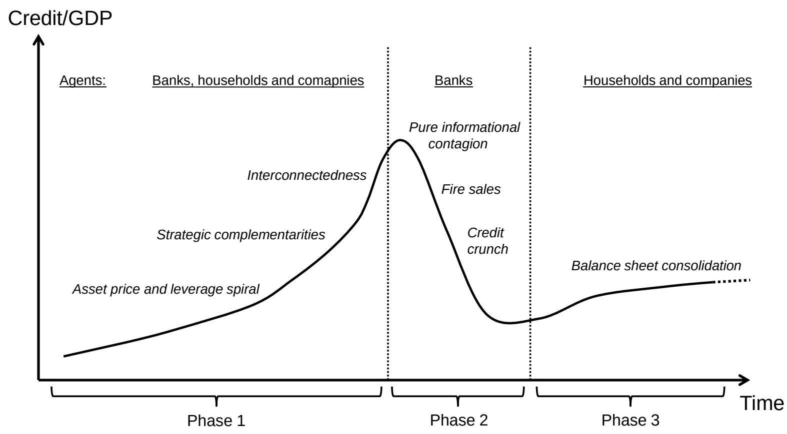
The literature discusses whether the accumulation and liquidation of financial imbalances are caused by a series of different negative, external effects. A negative external effect emerges when different players act rationally from their own perspective, but the collective effect of their actions leads to undesirable economic outcomes. It may be illustrative to describe the negative externalities in a stylized credit cycle (figure 1).

In phase 1 of the credit cycle, GDP growth is high and the situation is characterised by rapidly rising credit volumes and asset prices, both for real and financial assets. The three most important negative external effects contributing to developments in this phase are the *asset price and leverage spiral*, the *strategic complementarities* and the *interconnectedness* between financial institutions. On the whole, phase 1 involves banks, households and companies taking on increasing debt and risk, and the risk becoming increasingly correlated. Phase 2 commences when a financial crisis is triggered. On the back of falling asset prices, the banks experience capital adequacy

[2] An alternative formulation of the broader target 2 would be to stabilize the financial or credit cycle.

problems, which must be remedied. A possible measure is banks selling off assets. Such *fire sales* intensify the decline in prices because the market is driven by increased supply. Another possible measure is the banks curbing lending. When many banks reduce lending at the same time in order to improve their capital adequacy, this result in a *credit contraction* in the economy at large, which affect banks' borrowers, i.e. households and companies. In addition, there is *pure informational contagion* about which players own which assets. This makes it hard to assess counterparty risk, which leads to greater caution and lower activity. Phase 2 means that banks liquidate large parts of the financial imbalances that was built up during phase 1.

Figure 2: The most important negative external effects in a stylised credit cycle



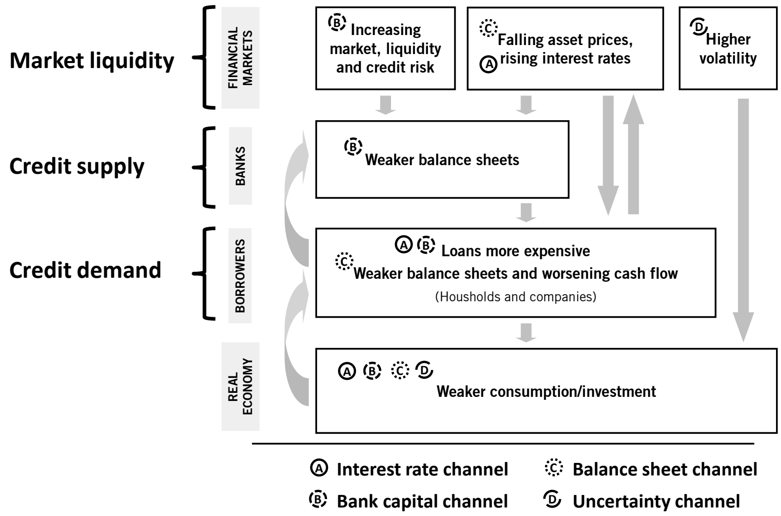
Source: Own diagram

In phase 3, the mechanisms behind the problem are very similar to those driving the banks in phase 2, i.e. *balance sheet restructuring* by companies and households. Declining asset prices, mainly house prices, lead households to perceive their debt burden as being far too large, and reduce their debt ratio and/or increase their precautionary savings. Companies behave in a similar manner and postpone their investments. Greater savings and lower investments lead to weak demand in the economy for a long period of time. Thus, phase 3 means that households and companies liquidate large parts of the financial imbalances that was built up during phase 1. It ought to be emphasised that the rationale above is schematic. Phase 2 need not be preceded by phase 1, and phase 3 need not be preceded by phases 1–2, which emphasises the motives for a broader definition of the policy area.

The negative external effects described above can also be described in terms of their effect on three main areas – that is, those affecting market liquidity, the supply of credit and demand for credit. This division into just a few main areas make it easier to illustrate how these negative externalities, through various transmission channels, affects the real economy (Figure 2).

Information contagion and fire sales are typical externalities affecting *market liquidity* during phase 2, characterised by major volatility and rapid, steep price declines in financial markets. Heightened volatility leads to increased uncertainty and is followed by greater caution, thus curbing demand in the economy (the uncertainty channel). The effects on *the supply of credit* occur in both phase 1 and phase 2, and intensify the upturn or downturn. In phase 2, a high degree of interconnectedness between financial institutions intensifies the shocks that occur, which exacerbates the credit contraction or results in higher lending rates. This, in turn, decreases demand in the real economy (bank capital channel). The effects on *the demand of credit* occur in both phase 1 and phase 3. In phase 3, for instance, households and companies are affected by rapidly declining asset prices. In order to reduce their debt ratio, households increase their precautionary saving, which reduces aggregated demand in the economy (the balance sheet channel).

Figure 2: Transmission mechanism flow chart, including the three main areas of the credit cycle's negative external effects



Source: An extension of Ministry of Finance (2012)

The analysis of the problems that the policy should address and how these affect the real economy provides the necessary building blocks to formulate an overall target for financial stability policy.

How should a policy objective be formulated?

In order to formulate an overall target of financial stability policy, it is necessary to consider whether there is a need for a prevention policy, and thus interim targets for the three main areas of market liquidity, credit supply and credit demand. When it comes to market liquidity, there is no need to counteract overly liquid markets in an upswing phase (phase 1). Therefore, there is no need for an interim target for this area. On the other hand, there is a clear need to improve liquidity on markets in a crisis situation (phase 2).[3] In addition to this, structural measures may naturally be taken which improve market functioning. The target of credit supply (target 1) should be to prevent build-up of financial imbalances in financial institutions. Financial imbalances can occur in many parts of the business, not only in parts relating to lending. These can be prevented by ensuring that financial institutions build up capital and liquidity reserves such that they avoid undertaking balance sheet consolidation in the event of a crisis. Accordingly, the target of credit demand (target 2) should be to counter the build-up of financial imbalances among households and companies. Otherwise the risk is that households and companies will become so indebted that they will need to consolidate their balance sheets over a long period of time if economic circumstances change, such as suddenly falling home prices.

The aim is thus to prevent build-up of financial imbalances at banks as well as households and businesses. If imbalances among the various players are not countered, they can lead to serious problems for credit supply and credit demand, an insight that is summarized in the overall target of financial stability policy which is to stabilize the credit market (target 2 in Table 1). This overall target is advocated in this report. A narrower target (target 3 in Table 1) is not considered appropriate as it disregards the important role of households and enterprises in a crisis. A broader target (target 1 in Table 1) is considered not to be appropriate because the business cycle is generally influenced by other factors than the problems that financial stability policy should address.

When should the policy be used?

Financial imbalances can occur for a variety of reasons and affect many different economic actors and are therefore difficult to

[3] Public debt policy and monetary policy play important roles for market liquidity in a crisis situation.

detect. The report's assessment is that a broad perspective is necessary in both the analysis and implementation of policy. The broad analytical framework should include indicators providing an assessment of the current status on financial markets (market liquidity), at banks (credit supply) and among households and companies (credit demand). The analysis should also be supplemented by forecasts and scenario analyses of the financial situation of the various players. On top of that, such a package of indicators should include market-based and forward-looking indicators, and indicators which measure the extent to which various financial institutions increase the risk in the financial system. As a small open economy with a large financial sector, which has operations in several countries, Sweden is also heavily dependent of the international development. This means that Sweden will be affected of the accumulation and liquidation of financial imbalances in other countries. Therefore it is very important to also have in-depth knowledge of the situation in other countries through the use of indicators capturing the external financial imbalances.

Which instruments can be used?

The instruments which may be used to achieve the intermediate targets can be divided up into two dimensions. The first dimension is about their character, i.e. whether they are cyclical or structural. The second dimension concerns the way instruments are linked to the three main areas (see Table 2 below). The report's assessment is that it is possible to counteract the buildup of financial imbalances through the use of a handful of cyclical and structural instruments, addressing both the supply of, and demand for, credit. While cyclical instruments can vary over time, structural instruments aim to tackle the problems relating to the structure of the financial system and its size, and to the structural factors of importance to households and companies. The majority of instruments can, however, work in both ways, although not at the same time.

Table 2: Examples of potential cyclical and structural instruments for financial stability policy

	Cyclical instruments	Structural instruments
Market liquidity	- Unconventional monetary policy (e.g. purchase of financial assets)	- Assets which can constitute collateral in central bank repos
Credit Supply	- Countercyclical capital buffer	- Liquidity reserves - (LCR and NSFR)
Credit Demand	- Loan-to-value ratio (LTV)	- Loan-to-income ratio (LTI)*

* Loan to value ratio (LTV) is currently a structural instrument (mortgage cap). Loan to income (LTI) is currently managed by the banks as part of their credit rating.
Source: Own categorisation

Most instruments aim to influence the negative external effects on the supply of credit by influencing either the equity of banks, or their liquidity reserves. However, there are also instruments which aim to influence household and company balance sheets and their demand for credit. In terms of liquidity, it is important to differentiate market liquidity from the liquidity of banks. For market liquidity, the instruments at the disposal of the central banks mainly play an important role in a crisis situation. The liquidity situation of banks is, however, preferably handled using instruments geared towards preventive policy pertaining to the very liquidity coverage ratio of such banks.

In terms of instruments for cyclical use, it is an advantage if they are simple in structure. Countercyclical capital buffer has this advantage and have the best fundamentals to be used as cyclical instruments targeting the supply of credit. For credit demand, a cyclical loan-to-value ratio (LTV) is closest at hand. In terms of structural instruments, liquidity coverage ratio (LCR) and net stable funding ratio (NSFR) are deemed to have the fundamentals to curb structural risks pertaining to the supply of credit, while the debt to income ratio (LTI) is closest at hand as regards demand for credit.

It should also be pointed out that the instruments discussed here are selected because they are suitable for financial stability policy. However, there is naturally a series of other instruments with a major potential impact on financial stability, e.g. various fiscal policy instruments. A common factor of these other instruments is, however, that they are taken for the purpose of other objectives, but are nevertheless a key prerequisite for financial stability policy. Some of the instruments can also be considered as crisis management instruments, e.g. stabilization fund levy.

In terms of the effect of the instruments on both financial variables and on the real economy, the conclusion from existing studies and the calculations in this report is clear. Several of the possible instruments would have a significant impact, both on direct policy-relevant variables such as credit growth and house price growth and on the development of the real economy, measured by GDP growth.

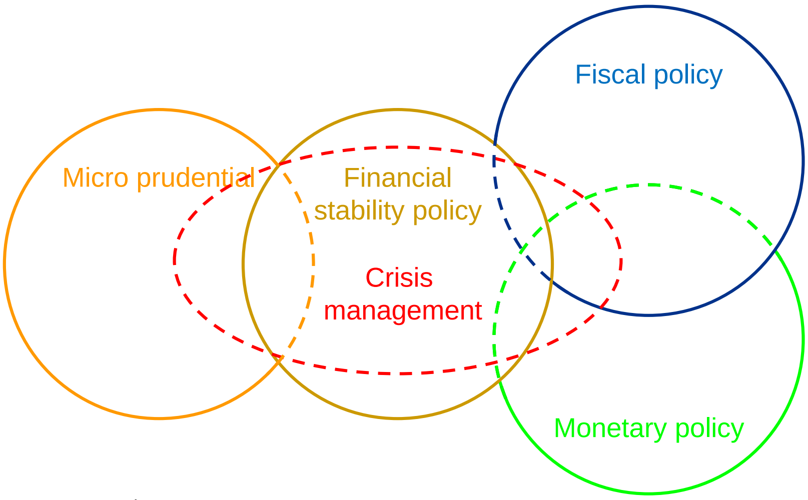
A new policy area is emerging

The prolonged financial crisis has illustrated that the built up of financial imbalances, and partially liquidated under dramatic circumstances, can have comprehensive repercussions for the real economy. It is therefore important to identify and attempt to understand various causalities and, not least, the interaction between financial stability policy and traditional economic policy.[4]

[4] There are two key policy areas in place in macroeconomic policy – monetary policy and fiscal policy. Monetary policy focuses on one target (inflation) and one instrument (the

Such an understanding may well limit any potential conflicts between different policy areas on the one hand, and benefit from mutually strengthening effects on the other (see figure 3 below).

Figure 3: Schematic overview of the link between different policy areas



Source: Own diagram

The need for policy interaction is evident in crisis situations, but it is also important for prevention policy. The report's assessment is that the cyclical instruments will become an important part of the stabilization policy framework because

key interest rate). Monetary policy focuses on achieving this inflation target by means of key interest rate adjustments. Fiscal policy contains three main areas – distribution, allocation and stabilisation policy. The targets within these areas are to be reached given the fiscal policy targets for public sector finances. Besides fiscal and monetary policy, microprudential policy also plays an important role in this context. It aims to manage risks in individual financial institutions, or limit institution-specific stress. This is achieved by using, for instance, level requirements placed on the capital and liquidity of the financial institutions, and supervising individual institutions and how they manage various risks. In a crisis situation, crisis management policy is also required in the form of a framework for managing e.g. banks.

they have an impact on real economic fluctuations. In the event of a crisis, these instruments will be used in conjunction with other economic policies to dampen the impact of the crisis on the economy. This stabilization policy dimension, through its effect on the economy, has a clear link to both monetary policy and fiscal policy.

Conclusions and comments

Financial crises can have very significant consequences for the economic development and the effects are both extensive and prolonged when banks, companies and households dismantle large parts of the financial imbalances built up over time. The link between financial imbalances and the real economy goes mainly through the roles of the banks, households and firms in the credit market. The assessment in this report is therefore that the overall target for financial stability policy should be to stabilize credit markets. The overall target can be divided into two sub-targets: to prevent the building up of financial imbalances in banks (credit supply) and households and businesses (credit demand). The policy can be pursued through the use of structural but also cyclical instruments. However, financial imbalances are difficult to detect and can occur in many different parts of the economy, which is why a broad perspective is necessary in both the analysis and the implementation of policy.

The analysis in the report shows that financial stability policy has a complex relationship to other policy areas and that the policy instruments are powerful. In addition, the policy is in its early stages and therefore knowledge is limited. This suggests a cautious use of the instruments, especially the cyclic ones. Initially, the cyclical instruments should be limited to the countercyclical capital buffers. As the knowledge and experience of the instruments and indicators increases, this cautious approach can be reconsidered.