A Swedish framework for macroprudential policy

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Lack of overview of the risks in the financial system as a whole, insufficient tools to counteract those risks and unclear allocation of responsibilities between authorities were circumstances that contributed substantially to the emergence of the global financial crisis. Extensive international work is now in progress to rectify these deficiencies. For example, a completely new policy area, macroprudential policy, is developing. The focus of this is to discover, analyse and counteract risks to the financial system as a whole, unlike traditional microprudential supervision that focuses on the health of individual institutions.

In this article we discuss in detail what macroprudential policy, or the mitigating of systemic risk, is really about. We also discuss a number of criteria that may provide guidance in the choice of a suitable toolkit for macroprudential policy. In conclusion we take an in-depth look at the demands that should be made of an institutional framework for macroprudential supervision in Sweden and analyse the pros and cons of different conceivable models.

1. Background – deficiencies on several levels

Hardly anyone predicted the outbreak of a financial crisis of the proportions that actually took place in 2007/2008. There was certainly no lack of indications that risks in the global economy were increasing: for a number of years before the outbreak of the crisis a buildup of substantial global imbalances could be observed, with large and enduring surpluses in savings in some parts of the world and deficits in others. The surpluses had to be invested and large amounts found their way into the international capital markets. Since the supply of investment capital was good, but interest rates on risk-free assets were low, demand for higher-yield assets increased. Prices on many asset markets around the world increased explosively. Lending expanded considerably, while premiums for credit risk were driven downwards to levels that appeared – and later proved to be – unsustainable in the long term. Hence there was no lack of signs that risks were building up and many people warned of this.

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A. Lack of overview

With hindsight it can be noted that no-one had a sufficient overview of the risks in the financial system, a fact that made it more difficult to understand the seriousness of the imbalances that had built up over a long period. Above all, there was no insight into the domino effect that would ensue if there were to be a drastic and uncontrolled fall in prices on any of the inflated asset markets. Few realised, for example, what repercussions the problems on the American mortgage market would have in the rest of the world. The financial sector had quite simply become too extensive and complicated for an effective overview to be possible with the existing supervisory structure.

B. Lack of action

The signs of increased risks that after all existed did *not* lead to appropriate countermeasures being taken. Since the signs were uncertain it was difficult to raise sufficient support for such measures.[1]

A further factor that contributed to passivity was deficiencies in the assignment of responsibilities and authority for financial stability. The financial supervisory authorities have not as a rule had any pronounced systemic perspective to their oversight. Instead, they were primarily focused on the health of individual institutions. On the other hand, the authorities – primarily central banks – which had a more overall systemic and macro perspective in their monitoring of the financial system did not have sufficiently clear mandates to intervene. To this can be added that supervision was mainly conducted on the basis of national mandates and focused on enterprises within the authorities' own jurisdiction. Consequently the authorities' overview of the system and their ability to take coordinated countermeasures deteriorated as the financial sector's internationalisation increased.

C. Lack of effective tools

But even if there had been stronger resolution to take countermeasures, it is doubtful how effective the tools that the authorities had access to would have been. To prevent the emergence of systemic crises it is in fact not sufficient to have tools that focus on the health and behaviour of individual enterprises or actors. The toolbox needs to be supplemented with tools directed at stability in the system as a whole. To some extent existing tools must also be recalibrated to suit broader purposes. It is necessary to take into consideration the *collective* behaviour in the financial sector and the interaction between the financial sector and the real economy in a completely different way than before. This includes counteracting the strong cyclical tendencies that distinguish the financial sector. That is, excessive risktaking in economic upturns and destructive and self-augmenting herd behaviour in contractionary phases. It is also a matter of focusing more on the links

1 The difficulties of assessing in advance whether strong price growth in a particular market is justified on the basis of fundamental factors or if it is a matter of a "bubble" should not be underestimated.

between different parts of the financial system to reduce the risks of problems being spread within the system.

D. Extensive international reform has been started

In the wake of the crisis, sweeping reforms have been initiated in the international financial supervision and regulation framework. As a complement to traditional institution-focused supervision (microprudential supervision), a framework of supervision focusing on stability in the financial system as a whole (macroprudential supervision or policy) is being developed. This work covers three fundamental components:

The first is the development of methods and forms of cooperation to discover and assess potential threats to stability in the financial system. This includes such things as developing forms of data collection and information exchange between authorities and models that can give early indications of the build-up of risk, as well as different stress tests and contagion models to assess the seriousness of the risks.

The second component concerns the development of different policy tools to counteract and preferably prevent the build-up of systemic risks.

The third component is about drawing up an institutional framework in which responsibility, powers and forms of coordination, decision-making and accountability contribute to making macroprudential policy as effective as possible.

This article focuses on the second and third components of this development work, that is policy tools and the institutional framework within which they are to be used.

But first we need to elaborate on the concept of systemic risk and define in more detail what we mean by macroprudential policy.

2. The dimensions of systemic risk

Systemic risk is the risk of disruptions in the financial system that are serious enough to threaten any of its fundamental functions, i.e. capital mediation, provision of payment services and risk management. Such disruptions could damage the economy as a whole.

A distinction is usually made between two basic dimensions of systemic risk: a **structural dimension** and a **cyclical dimension**.

A. The structural dimension

The structural dimension includes how the concentration of risk and the links between different parts of the financial system at any given time affect the risk of a crisis befalling the system as a whole. The structural dimension is sometimes also called **the cross-sectional dimension**. If a large number of financial institutions have similar exposures, an asset price shock could hit the financial system as a whole very suddenly. But even problems that initially only affect individual institutions can spread rapidly and widely through the financial system as a result of extensive interlinkages between financial institutions, for example through counterparty relations.

Hence the structural dimension of systemic risk is associated with both the concentration of risk in the financial system (exposure to the same types of risk, dependence on the same sources of funding, infrastructure etc.) and the degree of interconnection in the financial system – between different institutions and between different markets – which increases the contagion risk when financial problem clusters appear.

The global financial crisis has shown how extremely extensive contagion effects can be and how difficult it can be to estimate contagion risk in advance. With hindsight it can be noted that the far-reaching securitisation process that was going on long before the crisis led many observers to conclude incorrectly that the system was better diversified – and hence more stable – than it really was.[2]

Initially during the financial crisis Swedish banks were comparatively mildly affected by the problems that arose in the markets for securitised loans. It was only when Lehman Brothers filed for bankruptcy protection in September 2008 that Swedish banks were drawn into the crisis in earnest. Liquidity in markets of significance for banks' funding deteriorated substantially at that time, which in turn contributed to a deterioration in the functioning of the interbank market. The banks' increased dependence on short-term funding in the global financial markets was of great importance here.

Swedish banks' considerable expansion abroad has also given rise to other, equally serious, contagion risks that could affect the Swedish financial system. For example, Swedish subsidiary banks' extensive lending in euros in the Baltic countries made the banks vulnerable to devaluations in those countries. Thus, there was a risk that problems in the Baltic countries would spread to the Swedish banking system.

B. The cyclical dimension

The cyclical dimension, which is also called **the time dimension**, concerns how risks to the system as a whole can build up over time, either through financial agents' interaction or through feedback between the financial system and the real economy. The crisis and the period that preceded it clearly illustrate the tendency towards excessive cyclical behaviour that often characterises financial markets.

In periods with strong growth, demand normally increases for loans to corporate investment and housing purchases. It also seems common for risk perception to weaken in

2 There had been considerable securitisation of credit risk for several decades in many parts of the world. In the course of time increasingly advanced ways of splitting and repackaging these risks emerged. This also led to the emergence of various artificial intermediaries. In connection with the transformation of credit to traded securities there were also more or less explicit guarantee commitments from the issuers of the original loans. The complicated web of hard-to-value instruments, layers of different intermediaries and ill-defined guarantees made it almost impossible to see where the risks were. When the bottom dropped out of the subprime market, confidence in credit risk instruments in general was affected. The difficulty of determining which investors were risking major losses in their portfolios and which banks had enormous deferred guarantee liabilities meant that many of them found it difficult to obtain renewed funding in the securities markets.

such an expansionary phase. Lenders often relax credit standards and often go far too deep into debt.[3]

As a rule this means that prices of assets of various kinds, such as property, rise at the same time as risk premiums fall. Competition for profitable transactions increases. The banks expand their balance sheets while trying to increase leverage and finance themselves at shorter maturities. The banks that do not do this are normally punished by the stock market.

But when the cycle turns everyone wants to reduce exposures and sell assets they perceive as particularly risky at the same time. This can be seen as a sound and rational response for individual institutions. It is also a behaviour that is normally encouraged from a microprudential perspective. But when all institutions *simultaneously* sell the same class of asset the prices of these assets will fall dramatically.[4]

This in turn can force the institutions also to sell other assets, which drives down market prices generally. Price volatility and the correlation between different classes of asset then increases. When institutions suffer losses to an increasing extent, liquidity in important markets can disappear. And when at the same time the banks reduce their lending and raise the lending rates, many borrowers may face problems. The number of corporate bankruptcies increases, with resulting increased credit losses for the banks. The adverse feedback loops that arise between the financial and the real economy become a vicious spiral.

The cyclical dimension thus concerns propensities to exaggerate in the expansionary phase (credit expansion, incurring debt) and in the contractionary phase (risk reduction, fire sales) as well as feedback between the financial system and the real economy.

Opinions differ about where excessive cyclical behaviour in the financial sector stems from. Some, such as Shiller (2000), have focused on the irrational element of overenthusiasm that often arises in good times. With an expression borrowed from Alan Greenspan he called the phenomenon "irrational exuberance".[5] Adopting a similar approach, many people, as once J.M. Keynes did, have recently spoken of the market as being possessed by "animal spirits".[6]

But not everyone is in agreement that the cyclical behaviour is due to the irrational behaviour of the players.

Some economists emphasise instead the dynamic interaction between the price of various assets and the prospects of debt-financing investments in them. Geanakoplos (2010) speaks of "the leverage cycle". According to him, the price of an asset is not only determined by the expected future payment flows, the "fundamentals". Wealth

3 Some Swedish banks' strong credit expansion in the Baltic countries before the crisis can also be seen as an example of disregarding risks in a period of strong growth.

4 This phenomenon can otherwise be seen as reminiscent of Keynes' (1936) savings' (thrift) paradox (when in an economic downturn everyone tries to increase their own savings, total savings in the economy decline).

5 The expression was used by Alan Greenspan in a speech at the annual dinner of The American Enterprise Institute for Public Policy Research on 5 December 1996 in Washington, D.C. The title of the speech was "The Challenge of Central Banking in a Democratic Society".

6 See Akerlof & Shiller (2009) and Keynes (1936).

distribution among various agents, the difference of their perceptions and varying abilities of financing an investment through leverage can have a great effect on the price of an asset. Even if two individuals have access to the same information, according to Geanakoplos, they can have different opinions on the value of an asset. Those who value the asset most highly will buy more of it the better access they have to debt-financing. This means that access to credit has a great effect on the equilibrium price. When leverage increases, prices also rise, and when borrowing opportunities deteriorate a relatively small decrease in expected income flows may be sufficient for the price of the asset to fall drastically.

Other economists, such as Woolley (2010), maintain that it is rather the existence of "principal-agent"-problems that is the most important reason for bubbles and crashes in financial markets. Woolley notes that most financial decisions are not made directly by the end customers/investors, but are delegated to "agents", such as banks, fund managers, brokers and other intermediaries. The ways in which these agents are compensated gives them incentives and time horizons that are not necessarily aligned with those of their clients/principals. For example fund managers are normally evaluated – once or twice a year – on the basis of how well their funds have performed in relation to the "index", that is, a kind of market average. This gives them an incentive to follow the crowd and not diverge too much from others' results rather than seek out any long-term fundamental value. Trend-following strategies, such as "momentum trading", may thus be highly rational from the perspective of the agent.

With such strategies it also becomes natural to try to reinforce a given price trend in various ways. A more powerful lever can be achieved in the strategy, for example by increasing borrowing, raising turnover and using different derivative instruments. An interesting quality of trend-following strategies – unlike strategies that aim to achieve convergence to long-term fundamental values – is that the more people who follow them the stronger they become. According to Woolley, the extensive use of similar procyclical strategies contributes to long-lasting errors in pricing and a more unstable financial system, as well as an inefficient use of resources in the economy as a whole.

With a view that is akin to this, Rajan (2005) maintains for example that the management of a bank, in its capacity of agent for the bank's shareholders, and which is evaluated and rewarded on the basis of the return on the bank's shares, may be tempted in good times to allow the bank to take extra "tail risk", in other words to take risks that have very low probability of being realised, but which would give rise to serious losses to the bank if they did materialise. Offering customers protection against credit losses is an example of a financial service that entails a tail risk for the bank. It gives a good revenue contribution to the bank's profitability "in normal times", while the risk associated with this service easily escapes the shareholders. Since the losses that may arise are only realised extremely rarely, they are not generally identified by conventional risk management models such as *Value-at-Risk*. But when they do materialise they can deal a death blow to the bank, and possibly also to anyone who has relied on a guarantee from the bank.

C. Link between the two dimensions

As has certainly become apparent by this time, the boundary between the structural and the cyclical dimensions is not always clear-cut. Structural problems, such as the difficulty of writing contracts that align agents' incentives with those of their principals, can give rise to cyclical problems. In the same way, cyclical factors can affect the structural side. For example, in an expansionary phase, characterised by strong expansion and high risk-taking, both a greater concentration of risk and more and more complicated links can arise in the financial system. In the search for yields during the run-up to the global financial crisis, a number of new securities and artificial intermediaries were created in the form of various special enterprises in which securities could be grouped and repackaged as new securities. All in all the financial system became more vulnerable, complex and difficult to oversee.[7]

3. The need for macroprudential policy

Systemic risk is not a new subject area. It has long interested many academics and people active in the world of central banking. Nor has it been unknown that traditional financial supervision has found it hard to manage systemic risks. *Macroprudential policy* has been a concept in the world of central banking at least since the end of the 1970s.[8]

One of the reasons for this interest in systemic risk is that many central banks, besides their monetary policy remit, have also long played a role in promoting stability in the financial system. The fact that central banks often play such a role is partly due to their central function in the major payment systems, as well as their unique possibilities of providing liquidity to the banking system and, where necessary, strengthening the functioning of the market. As in macroprudential policy, central banks' financial stability work keeps *the system* in focus. The analytical perspective is, in other words, the same as for macroprudential policy.

As far as Sweden is concerned, the systemic perspective started to find its way into the authorities' monitoring of the financial system in answer to the banking crisis that arose in the early 1990s. The Ministry of Finance, for example, started to review the business regulations for banking operations. Moreover Finansinspektionen (the Swedish Financial Supervisory Authority), besides its consumer protection remit, was later tasked with "promoting stability and efficiency in the financial system". The work of changing the direction of supervision in practice was, however, slow.

It was above all when the Riksbank started to develop an analytical framework for financial stability in the mid-1990s that the systemic risk perspective came into the picture in earnest. Even if the Riksbank does not have an express mandate to promote stability in the financial system, it has been tasked with "promoting a safe and efficient payment system". The Riksbank has interpreted this as a responsibility to promote stability in

7 See also Shin (2010).
8 See Clement (2010).

the financial system as a whole, with emphasis on the major banks.[9] This is a natural consequence of the central role of the banks in the payment system and of the special systemic risks associated with the banks' operations.

Since 1997 the Financial Stability Report, published twice a year, has been an essential part of the Riksbank's stability work and an important starting point for public dialogue about risks in the financial system.[10,11] For example, the Riksbank gave early warnings in that report about developments in the Baltic countries and the unsustainably low premiums on credit risk.

A good analytical framework for identifying and assessing systemic risks is one of the prerequisites enabling the Riksbank and other central banks – in their role as "lender of last resort" – to effectively handle a crisis in the financial system.

But as a rule central banks lack more sturdy tools to *prevent* the build-up of risks that can lead to such systemic crises. The Riksbank, like many other central banks, is reduced to using "moral suasion", i.e. to trying to exert influence through the use of persuasive arguments. Tools of a more sturdy nature, such as the right to issue regulations in the financial area, reside instead with the microprudential supervisory authority.

The political ambition to create a coherent institutional framework with clear mandates for monitoring and suppressing systemic risks was virtually non-existent in the past. Only when systemic risks materialised in the form of the greatest financial and economic crisis since the Second World War did the policy-makers around the world consider it justified to develop macroprudential policy into a new policy area with an appropriate institutional framework and a functional toolbox.

Macroprudential policy could be briefly described as follows:

The objective is to reduce risks to the financial system as a whole and to improve resilience to its disruption, as distinct from microprudential supervision, which is mainly focused on risks in individual financial institutions.

Macroprudential policy does not include crisis management. Even if the work of financial stability is by and large concerned with both reducing the risk of serious systemic crises and minimising the negative consequences if such crises nevertheless arise, it is important to point out that day-to-day macroprudential policy is only concerned with the former, that is the preventive work, even if arrangements for crisis management create the conditions for this work.

In the current situation **tools** for achieving this objective must be specified.

Moreover, **the mandate and responsibility** for macroprudential policy need to be established.

9 See Sveriges Riksbank (2010).

10 Through the Financial Stability Report the Riksbank became a pioneer in publishing such an analysis. Central banks in about sixty countries, as well as international organisations such as the IMF and the ECB, have now followed in its footsteps.

11 Finansinspektionen (the Swedish Financial Supervisory Authority) has published an annual stability report since 2000. In 2009 it was amalgamated with a consumer protection report and called a risk report.

The authority or authorities that are tasked with macroprudential policy will affect and be affected by other policy areas, such as monetary policy, microprudential supervision and fiscal policy, so good forms of coordination and exchange of information with these areas must exist.

The need to develop an entirely new policy area to be able to manage systemic risks is, however, not entirely undisputed. Some critics have maintained that the necessary improvement in systemic risk analysis can be managed within existing policy areas, such as monetary policy or microprudential supervision. According to this view, only clearer objectives and mandates are needed. Others have expressed doubt as to whether macroprudential policy can deliver the desired result, since the type of risk that macroprudential policy is meant to catch is in practice very difficult to identify and assess.

3.1 THE RELATION TO OTHER POLICY AREAS

Let us start by analysing the first part of the criticism, that systemic risk could be managed just as well within the framework of existing policy areas.

A. Monetary policy and macroprudential policy

Many observers consider that an important factor behind the current financial crisis is that interest rates were kept at a low level far too long, not least in the USA. The predominant view up to now, at least before the crisis, was that monetary policy should only react to a rapid increase in house prices and indebtedness if, according to forecasts, this meant a risk of overheating in the economy and thereby far too high an inflation rate. If this is not the case, the central bank should wait and see, but be prepared to rapidly loosen up monetary policy if house prices slump and demand in the economy falls steeply. Hence, according to this view the monetary policy approach to asset bubbles should primarily be to "clean up afterwards".

This view has been called into question more and more, not least since the work of cleaning up afterwards has proved to be potentially rather extensive. This applies particularly if the asset bubble can be linked to credit expansion. In most cases it is such credit expansion – and not asset prices themselves – that is most worrying.

Many people have therefore asked themselves whether monetary policy could be used more actively to dampen an upturn in asset prices by "leaning against the wind". Many central banks will probably also be reviewing their macroeconomic models and specify the role of asset prices in the transmission mechanism.

Even if an expansive monetary policy possibly contributed to the build-up of bubbles in different quarters, many maintain that it was mainly other factors that lay behind the international financial crisis. It was rather the combination of large global imbalances, distorted incentives among the financial sector agents, failures of regulation and supervision, information problems and some specific factors, such as a policy that consciously aimed at increasing home ownership in the USA, which led to the outbreak of the crisis.

It is not likely that monetary policy is the most effective tool in all situations for counteracting the build-up of bubbles and excessive credit growth. Monetary policy risks having too broad an impact, with potentially undesirable effects in sectors that are not overheated. Nor does monetary policy counteract the structural dimension of systemic risk. This indicates that special tools for macroprudential policy are needed.

However, it remains to be seen how well such special macroprudential tools can entirely eliminate the need for monetary policy measures to counteract build-up of systemic risk. In some cases the line between monetary policy and financial stability may be blurred. For example, this is true in turbulent times, when the policy rate approaches zero per cent, and monetary policy must largely be conducted through unconventional means such as purchase of assets ("quantitative easing") or fixed rate lending at longer maturities than normal.

B. Microprudential supervision and macroprudential policy

Microprudential supervision is concerned with identifying and analysing operational and financial risks in individual financial enterprises that can affect their ability to meet their financial obligations. However, the Government's primary focus is not on the enterprises as such. Instead it is the functions the enterprises fulfil, as well as protection to consumers and investors, that are material. Apart from consumer and investor protection, microprudential supervision – just as macroprudential policy – is ultimately aimed at promoting stability in the financial system. (This is true at least for Finansinspektionen, the objective of which is to "promote stability and efficiency in the financial system and ensure effective consumer protection in the financial system".) On the other hand, microprudential supervision and macroprudential policy differ from each other as regards methods and perspective.

Unlike the focus of microprudential supervision on individual enterprises, macroprudential policy is based on a systemic perspective. From that perspective it is important, for example, to analyse the macroeconomic conditions for the financial sector and the financial markets. It is also necessary to analyse how disruptions in the financial sector affect the real economy and how this in turn rebounds on the financial system. Macroprudential policy thus has another analytical focus and requires – to a greater extent than microprudential supervision – well-developed analytical frameworks to study both the macro economy and financial stability, as well as how they affect each other.

A lesson from many financial crises, including the present one, is that the build-up of systemic risk often starts outside the regulated sector, i.e. in enterprises that are not formally subject to supervision (cf. "the shadow banking system").[12] One difficult, but important, task of macroprudential policy is therefore to identify risks that arise outside the perimeter of supervision. In other words, macroprudential policy must be conducted using a wider field of vision than ordinary microprudential supervision.

12 Adrian & Shin (2009), Pozsar et al (2010).

The tools that may become relevant in macroprudential policy are, however, to a great extent the same, or of the same type, as in microprudential supervision, even though they are used in a different way.

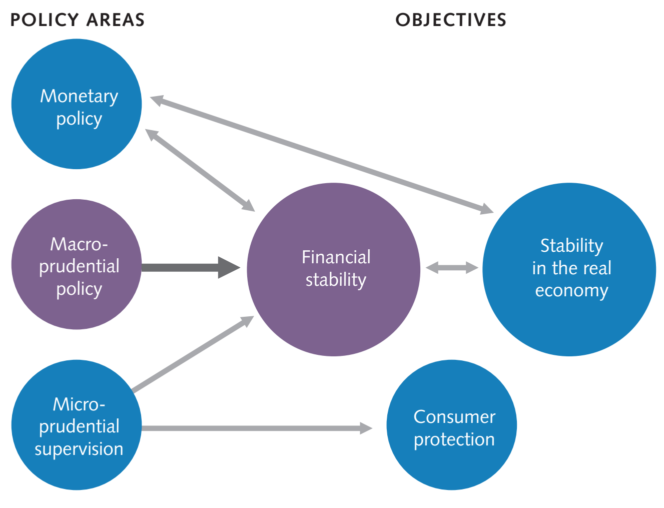
C. The focus of macroprudential policy

We could summarise the area in which macroprudential policy operates as in Figure 1 below. Macroprudential policy can naturally be said to be ultimately aimed at achieving stability in the economy as a whole, but its area of operation is limited to the financial system. The direct objective is to promote stability in the financial system, and a possibly more stable development of the real economy can be seen as an indirect consequence of the fulfilment of this objective. Unlike monetary policy, macroprudential policy is not directly aimed at the real economy.

Even if both macroprudential policy and microprudential supervision ultimately aim to achieve financial stability, the methods for achieving it are different. Microprudential supervision also aims explicitly to protect consumers.

For the most part the different policy areas complement each other, but in some cases a trade-off must be made between them. This is dealt with in more detail in Section 6.1.

Figure 1. The area of operation of macroprudential policy



3.2 WHAT CAN MACROPRUDENTIAL POLICY ACHIEVE?

Let us now discuss the other type of criticism mentioned at the beginning of the section, which is the scepticism about the ability of macroprudential policy to deliver the desired result, since it is so difficult to identify systemic risks.

What macroprudential policy can be expected to achieve is a justified question, since empirical experience of macroprudential policy is limited. In light of this, an alternative way of trying to answer the question would be to review and consider whether the crisis could have been avoided or alleviated if macroprudential authorities with a clear mandate had existed. Which of the risks that existed, for example in the USA where the crisis started, should such an authority have detected and acted on?

A comprehensive examination of some of the risks that arose in the USA in the years before the crisis gives a mixed result. There were important systemic risks that a responsible macroprudential authority would probably both have observed and acted on, such as the risks that arose in the government-sponsored mortgage institutions *Fannie Mae* and *Freddie Mac.* These risks were identified by the *Federal Reserve*[13] and it is therefore not unlikely that a macroprudential authority with a clear mandate would have acted more vigorously to manage these risks.

There are also, however, risks that did not lead to problems in the crisis, but which a macroprudential authority might have incorrectly acted on. Examples of these are the US hedge fund developments, which several observers incorrectly predicted would lead to the next financial crisis.

Moreover, there were several important systemic risks that a macroprudential authority would probably not have succeeded in identifying. Among these are the subprime risks, which only became visible in late 2007, even though overvaluation in the housing market had been identified earlier.[14] The supervisory letters written in 2005 and 2006 were rather cautious and mainly focused on consumer protection aspects.[15]

Both the fairly mixed outcomes of these counterfactual hypotheses and the limited international experience of macroprudential policy make it difficult to assess what macroprudential policy can achieve.

There are also some fundamentally very difficult assessments that must be made when conducting macroprudential policy. One of these central assessments is to determine whether reaching a specified level of certain indicators reflects increased systemic risk or a basically harmless structural change. For example, it is difficult to assess beforehand whether certain financial innovations are positive for the economy as a whole or not. Macroprudential policy is also made more difficult by lack of data, inter alia because some financial activities circumvent regulation and supervision (compare the "shadow banking system"[16]) and because banks consolidate their balance sheets globally.

Developing macroprudential policy as a new policy area thus entails major challenges. At the same time we can note that the costs of a global financial crisis are often enormous. Haldane (2010) has estimated the total cost of the global financial crisis in terms of lost growth as roughly between one and five times (!) global GDP.[17]

13 Statement by Alan Greenspan before the Committee on Banking, Housing, and Urban Affairs in the US Senate on 24 February 2004.
14 J Dokko et al (2009).
15 SR 05-11 (http://www.federalreserve.gov/boarddocs/srletters/2005/SR0511.htm) and SR 06-15 (http://www.federalreserve.gov/boarddocs/srletters/2006/SR0615.htm).
16 See Adrian & Shin (2009) and Poszar et al. (2010).
17 Haldane, Andrew G. (2010).

All in all this indicates the importance of trying to prevent the build-up of major systemic risks, but also the need to create realistic expectations among decision-makers and the public about what macroprudential policy can achieve. It will not be possible to prevent all future financial crises, but hopefully a few more than in the past.

Since knowledge and experience of macroprudential policy is still limited, a great deal analytical and empirical work remains to be done. It is particularly important to develop methods of identifying and measuring systemic risk as well as to develop tools for macroprudential policy and assess their effectiveness.

4. A toolkit for macroprudential supervision

Of the tools that may be relevant to macroprudential policy most are fundamentally microprudential tools, though calibrated for macroprudential purposes. Among these tools can be found limits to how much a property may be financed by debt (*Loan-to-Value cap*s, *LTV cap*s), borrowing restrictions in relation to disposable income (*Debt-Service-to-Income cap*, *DSTI cap*), limits on individual large exposures and liquidity ratios.

Today there are only a few tools that can be called "pure" macroprudential tools, that is tools specially designed to tackle systemic risks. These include, for example, countercyclical capital buffers, dynamic provisions and capital surcharges for systemically important institutions. However, it is probable that the number of pure macroprudential tools will increase as development in the area progresses.

Some potential tools would naturally fall within a central bank's field of operations. For example, it is conceivable to calibrate the banks' minimum reserve requirements for macroprudential purposes. Theoretically the policy rate could also be used for this purpose. It is another matter how effective these tools would be for macroprudential purposes.

Other conceivable tools would, if anything, be found in the fiscal area. Among these would be deduction rules for borrowers' interest expenses.

Possible macroprudential tools can thus be found in the province of different authorities, but today most are in the hands of the supervisory authority.

4.1 FACTORS THAT AFFECT THE CHOICE OF POLICY TOOLS

What approach should then be taken in choosing and designing a set of tools for macro-prudential policy? There is still no ready-made and generally espoused theoretical frame-work for this purpose. The choice of tool is, however, largely dependent on both the financial sector's structure and the relevant context. There are several factors to take into account.

A. Structural or cyclical problems?

An important aspect is of course the nature of the specific problem to be counteracted. As has been mentioned, the macroprudential framework aims to counteract two fundamental types of problem: cyclical and structural. The principles for designing tools for the different problem types may differ somewhat.

When tackling problems of a cyclical nature it is a basic principle to make it more expensive and less attractive in various ways to build up risk in good times, while at the same time wishing to create buffers that can be used in bad times, when the risk materialises.

Examples of tools that can be used to counteract excessive credit expansion and dampen asset price cycles are *countercyclical capital buffers* and *dynamic provisions*. It has been decided to introduce countercyclical capital buffers within the Basel III framework. The idea behind them is to force banks to hold extra capital in good times, so as to be able to reduce capital requirements in a contractionary phase. Dynamic provisions, that have been applied for many years in Spain, mean that the banks must make provisions in their accounts for future expected credit losses.[18] Both tools aim to create buffers in good times, which will soften the fall in a contractionary phase.

To tackle structural problems the ideal is first to measure the institution's individual contribution to the total systemic risk and then calibrate the tool on the basis of these measurements.

Even if some progress has been made in developing measures of systemic risk, a great deal of work still remains to be done before they are practically applicable in macroprudential policy.[19] Examples of tools to counteract structural problems that are currently being developed are *capital surcharges for systemically important financial institutions* (SIFIs), tighter transparency requirements and direct restrictions on certain activities.

In addition there are tools that more specifically tackle structural mechanisms that can augment systemic risks. These tools include for example the *leverage ratio*, i.e. a restriction on a bank's total non risk-weigted assets in relation to its equity. They also include tools to restrict *maturity mismatches*, such as different *liquidity ratios*.

Many tools are flexible in the sense that they can be used for different purposes. Depending on how they are applied, they can either be used to counteract cycles or to influence structural factors.

18 Even if dynamic provisions did not succeed in dampening excesses in the Spanish credit cycle very effectively, they probably contributed to making the Spanish banks more resilient in the crisis that arose.

19 For example Adrian and Brunnermeier (2008, revised 2011) develop such a measure on the basis of CoVaR, which is a Value-at-Risk-measure for the financial system, conditional on institutions being in distress.

B. Specific or broad-spectrum tools?

It is also necessary to decide if it is appropriate to use tools with a broad area of impact or tools that are directed towards a specific sub-market, an instrument or an activity.

An example of a tool with a relatively broad impact is countercyclical capital buffers, which are based on total credit expansion and cover all banks. This means the effects of this type of broad-spectrum tool will lie close to the effects of monetary policy.

Broad-spectrum tools have the disadvantage of risking unintended effects in sectors that have no problems. If the problems are clearly concentrated in a single sector or closely linked sectors, more specific tools are preferable. An example of such a tool is the possibility of adapting risk weights of assets to special markets or instruments.

However, it is not certain that there will always be specific tools that are sufficiently effective. In some cases it may be too easy to circumvent them. Credit expansion may, for example, find new channels outside the regulated sector. In such cases perhaps not even countercyclical capital buffers have a sufficiently broad effect, since they only impact banks (cf. shadow banking system).

Other cases where specific tools are less appropriate are when problems initially just happened to manifest themselves in a particular sector, while the real problem is in fact considerably more widespread. It is also conceivable that a specific measure might instead redirect risk build-up to other, possibly even more dangerous sectors.

The conclusion is that there may be a need for both broad-spectrum and more specific tools.

C. Controlling quantity or price?

The tools can be quantitative or price-controlling. *Quantitative* tools are those that set absolute limits for financial agents and force them to act in a certain way. It may be a question for example of introducing rules that set an absolute limit on how much a bank may lend in foreign currency.

By *price-controlling* or incentive-controlling tools is meant tools that instead *encourage* the agents to restrict their risktaking or otherwise act in a desired way. By using for example fees that make it costly to provide services entailing increased systemic risks, such activities can hopefully be kept within reasonable limits.

Some tools are ostensibly quantitative, but in practice act as a price-control. For example, mortgage ceilings and capital adequacy requirements are expressed as quantitative maximum or minimum requirements, but if anything often work by making certain behaviours more expensive, but without entirely eliminating them. By applying different *risk weights* of capital adequacy for different types of exposure, it is possible to make investments in more risky assets more expensive for the bank than less risky investments.

Economists usually recommend price control rather than quantity control, since price control gives the agents the possibility of weighing costs against expected benefits. The agents who value for example the possibility of increasing lending sufficiently to pay the extra cost that increased capital requirements entail can then do so.[20] As a rule this gives better conditions for effective use of resources in society than a policy that faces all agents with the same quantitative restrictions.

It is not certain, however, that it is precisely the agents that are most sensitive to price control that are the ones that we most want to influence. A quantitative tool includes everyone, for better or worse. In some cases an activity may be so hazardous to society that absolute limits on it are necessary.

The choice between quantitative and price-controlling tools must largely depend on what is most expedient and practical in the particular case, and on the existing experience of the tool in question.

D. Use one or more tools for the same purpose?

There may be more advantage in limiting the number of tools used for one and the same purpose. In the first place communication of policy decisions is simplified if only one or a few tools are in use. In the second place it becomes easier to evaluate the effect of the tool in retrospect and thereby easier to calibrate its use in the future. The costs of regulation are probably also lower.

At the same time single tools may have a limited effect and diminishing marginal benefit. Several tools may be needed to tackle different aspects of the same risk. Several different tools also reduce the risk of attempted circumvention of controls.

To increase the probability of achieving the desired effect there may therefore be greater reason to use several different tools, the greater the uncertainty and the more dangerous the systemic threats are.[21]

E. Static or dynamic application of the tools?

To be able to actively manage credit and price cycles, tools are required that can be applied *dynamically*, i.e. varied over time. More specifically there is a desire to be able to introduce countermeasures in an expansionary phase to dampen some developments, but also to be able to withdraw the measures in a contractionary phase to stimulate the market. The typical example is countercyclical capital buffers.

For such dynamic application to be effective, there must be indicators that can differentiate between real systemic threats and fundamentally justified developments. It is also important to know how long it will take before a policy measure takes effect. If this is misjudged there is a risk that a measure will only start to have an impact when the cycle is already turning.

20 Compare with price-controlling instruments in environmental policy, such as those that allow firms to buy and sell emission rights for a certain amount of greenhouse gases.

21 See for example Brainard (1967).

Static tools, i.e. those that do not change over time, can also to some extent contribute to stabilising asset prices and credit cycles. For example, fixed restrictions on household borrowing may have a price-stabilising effect on the housing market.

If you want to minimise the consequences of sudden and strong asset price corrections it is a good idea to have access to both dynamic and static tools. For example, rules that set limits for credit institutions' or households' borrowing contribute to strengthening the resilience of those players when there are substantial price corrections. In that way the risk of a price fall leading to financial instability or substantial changes in household consumption also decreases. However, dynamic tools have the advantage that they can be corrected in response to how the markets and the economy develop, for example by raising requirements for buffers in the banks in good times and reducing them in bad times.

The conclusion is that both dynamic and static tools may be needed.

F. Automatic application or case-by-case assessment?

Application of dynamic tools of the type mentioned in the section above can be either discretionary or automatic. Application is *discretionary* if it is the responsible authority itself that makes continuous assessments and on the basis of these decides to take measures to steer a certain development in a desired direction.

Automatic tools build instead on measures being taken in accordance with a pre-determined rule. An example of a conceivable automatic tool is a rule that determines how the level of banks' capital requirements is to be adjusted in relation to credit growth in the economy.

Automatic tools are predictable, which facilitates planning and increases legal safeguards for financial sector participants. Another advantage is that being automatic removes some of the authorities' burden of proof and anguish over the need to make uncomfortable decisions.

A disadvantage, however, is that automatic tools reduce precision and can be more indiscriminate than "discretionary" interventions based on assessments of the current situation. Nor is it certain that an automatic tool alone can cover all important risks and imbalances if the tool is based on insufficient indicators. In that case discretionary tools can bring a higher degree of flexibility. The same flexibility can, however, tempt authorities to refrain from action.

Hence there are advantages and disadvantages to both discretionary and automatic tools.

A conceivable way of managing the problems is some form of "semi-automatic" application. For example, similar to what Goodhart (2011) proposes, a formalised decision-making process could be linked to a set of indicators that force authorities to decide whether measures are necessary and report the reasons for their decision (see section 6.2).

In this way predictability could increase while reducing the risk of authorities abstaining from making uncomfortable decisions.[22]

5. Possible models

The work of developing a toolkit for macroprudential policy will continue for a long time to come, both nationally and in cooperation at international level. At national level it is also necessary to establish appropriate rules of procedure for macroprudential policy. More specifically, it is necessary to determine which authority or authorities are to be responsible for macroprudential policy and how coordination and decisions on the use of relevant tools should take place. In this section we give a general account of the arguments and recommendations concerning the organisation of macroprudential policy that have emerged to date among a number of international organisations, academics and national bodies.

5.1 IMF: STYLISED MODELS FOR MACROPRUDENTIAL POLICY

In a report, *the International Monetary Fund,* IMF (2011c), describes a number of models for macroprudential policy, created on the basis of surveys in 50 countries. The report distinguishes between the models on five points:

- **Integration of central bank and supervisory agencies.** This can be full, partial (if supervision of banks lies with the central bank) or non-existent.
- **Ownership of macroprudential policy mandate.** Ownership can rest with the central bank, an independent committee or be shared by multiple agencies.
- **Role of Ministry of Finance.** The role of the Ministry of Finance can be active (if it plays a leading role in policymaking or coordinating committees), passive (if it participates in such committees, but has no special role) or non-existent.
- **Institutional separation of policy decisions and control over instruments.** This separation often exists if the responsibility for macroprudential policy lies with a committee or if supervisory functions lie partly with the central bank. If all decisions lie with the central bank or, on the other hand, if different agencies have full responsibility in their sectors, this is not regarded as institutional separation.
- **Existence of separate body coordinating across policies.** When responsibility for macroprudential policy is shared, a separate committee can harmonise different views and coordinate policy and statements.

From the potentially countless combinations the report has created seven stylised models. These are described in Table 1 below.

22 See for example Bank of England (2009) for a more detailed discussion of trade-offs between automatic and discretionary tools ("*rules versus discretion*").

Table 1. Stylized models for macroprudential policy

FEATURES OF THE MODEL/ MODEL	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	MODEL 7
Degree of institutional integration of central bank and supervisory agencies	Full (at a central bank)	Partial	Partial	Partial	No	No (Partial*)	No
Ownership of macroprudential policy mandate	Central bank	Committee "related" to central bank	Independent committee	Central bank	Multiple agencies	Multiple agencies	Multiple agencies
Role of MOF/ treasury/ government	No (Active*)	Passive	Active	No	Passive	Active	No
Separation of policy decisions and control over instruments	No	In some areas	Yes	In some areas	No	No	No
Existence of separate body coordinating across policies	No	No	No (Yes*)	No	Yes	Yes (de facto**)	No
Examples of specific model countries/ regions	▸Czech Republic ▸Ireland (new) ▸Singapore*	▸Malaysia ▸Romania ▸Thailand ▸United Kingdom (new)	▸Brazil* ▸France (new) ▸United States (new)	▸Belgium (new) ▸The Nether-lands ▸Serbia	▸Australia	▸Canada ▸Chile ▸Hong Kong SAR* ▸Korea** ▸Lebanon ▸Mexico	▸Iceland ▸Peru ▸Switzerland

Source: IMF.

The IMF report discusses in some detail the advantages and disadvantages of the different models. An important trade-off is that between centralisation (often to the central bank) and more decentralised responsibilities.

Models 1, 2 and 4 give substantial power to the central bank. One advantage is that the central banks already have a systemic and macro perspective in the analytical framework. Another advantage is that it will be easier to take action when the need for external coordination is limited. The central banks' independence of the political system also makes it easier to take unpopular decisions.

The drawback is that the central bank will grow – macroprudential policy may come into conflict with the monetary policy remit and the central bank's economic-political power may well become too great.

For their part, models 5 and 6 require effective coordination. If this exists, a clear focus on macroprudential policy can be established, with clear division of responsibilities between each institution. The risk is that coordination will be ineffective. In that situation macroprudential policy will lack its own instruments, while those in charge may afford lower priority to macroprudential policy in favour of their other objectives.

5.2 GOODHART AND ROCHET

Goodhart and Rochet (2011), who have made an evaluation of the Riksbank's monetary policy and financial stability work, discuss four possible models for macroprudential policy in Sweden:

1. **Macroprudential policy as a shared responsibility between several agencies.** The authors envisage the establishment of a systemic risk council in which the Riksbank, Finansinspektionen, the Ministry of Finance and the Swedish National Debt Office would exchange information and cooperate. This model is close to the agreement that exists today between these four agencies for the purpose of promoting financial stability and facilitating crisis management. The disadvantage of the model is that conflict management is made more difficult when there is no participant with clear responsibility. Goodhart and Rochet leave the issue of who should lead the work – the Governor of the Riksbank, the Director General of Finansinspektionen or the Minister of Finance – open.
2. **A separate macroprudential agency.** The authors believe that establishing another agency would entail extra costs and a complicated structure.
3. **The central bank in charge of macroprudential regulation, with a separate microprudential regulator.** Reported advantages are that the solution would build on the expertise and staff already present in the Financial Stability Department of the Riksbank and would thus economise on resources and personnel. The model would furthermore give more influence in the European Systemic Risk Board, ESRB, since the Governor of the Riksbank automatically has a voting right in that organisation. Disadvantages specified are that the Riksbank may have too much power and that it may conflict with monetary policy objectives.
4. **The central bank in charge of both macroprudential and microprudential regulation, with a separate financial product safety regulator.** The model gives advantages through economies of scale and synergies and may make it easier to recruit and retain staff. The disadvantages are that the Riksbank's power would increase even more, while the Riksbank could be exposed to legal and other risks.

Goodhart and Rochet conclude that it is mainly the first and third options that should be considered as far as Sweden is concerned, but they do not specify any clear preference between them.

5.3 FISCAL POLICY COUNCIL

The proposals the Fiscal Policy Council (2011) put forward are to some extent similar to those of Goodhart and Rochet. The Council considers that the framework for financial stability needs to be strengthened and proposes two alternatives.

In the first alternative the Riksbank is given greater responsibility and possibly an increased arsenal of tools. Arguments put forward for this alternative are that the Riksbank already has powerful monetary policy instruments, is in immediate contact with financial institutions, is responsible for and has best analytical capacity concerning financial stability and already publishes a Financial Stability Report. The counterarguments include that financial stability may come into conflict with monetary policy, that there is a risk of too far-reaching consensus with the financial industry and that the Riksbank already has great power.

In the second alternative, a financial stability council is to be established, tasked with analysing systemic risks and proposing measures. The Fiscal Policy Council's proposal seems to go further than for example the first proposal of Goodhart and Rochet (above), or the IMF's (below) and refer to an authority with its own Director General, even though the Council's only powers would be to report their analysis and recommendations. In that way an actor with an unambiguous focus on systemic risk would be created, which can function as an active warning voice and become yet another participant in the economic-political debate. Among the disadvantages are the facts that the council's secretariat would entail duplication of analytical capacity, that three authorities may be too many, that the Riksbank may feel less responsibility for financial stability and, not least, that the council would lack power to back its recommendations.

5.4 THE IMF PROPOSES A SYSTEMIC FINANCIAL STABILITY COUNCIL ALREADY IN THE SHORT TERM

The IMF (2011a) proposed at the time of its assessment of stability in the Swedish financial system in spring 2011 that a *Systemic Financial Stability Council* be set up at the highest level. The IMF gave this highest priority, and considered that it should be set up as soon as possible (within about a year). The IMF proposes that the Riksbank, Finansinspektionen, the Ministry of Finance and the Swedish National Debt Office be given places on the Systemic Financial Stability Council, together with independent participants that do not represent any government agency. The IMF also considers that the Governor of the Riksbank should chair the council.

The IMF considers that the council should be consultative rather than have its own tools at its disposal. The council should possibly be accountable to the Swedish parliament, Riksdagen. This seems to be similar to Goodhart's and Rochet's first proposal.

It should be pointed out that already now a Stability Council has been set up through an agreement between the Riksbank, Finansinspektionen, the Swedish National Debt Office and the Ministry of Finance to *coordinate management and preparations for handling of financial crises*. According to the IMF, however, this Stability Council for crisis management should not be identical with the cooperation council proposed for monitoring systemic risk.

Pending a decision on a long-term organisational solution for macroprudential policy in Sweden, the Riksbank and Finansinspektionen set up a Council for cooperation on macroprudential policy in January 2012.[23] The cooperation is to be seen as a complement

23 Sveriges Riksbank (2012).

to the Stability Council for crisis management. It is to discuss assessments of systemic risks and macroprudential policy issues. The introduction of the council does not, however, alter the independence, responsibility and decision-making rights of the respective authorities with regard to their tasks.

5.5 RECOMMENDATION OF THE EUROPEAN SYSTEMIC RISK BOARD

The European Systemic Risk Board, ESRB, published a recommendation on the macroprudential mandate of national authorities in January 2012. This points out the importance of EU Member States designating an independent authority which will have a clear responsibility for macroprudential policy and appropriate instruments at its disposal. The purpose of the recommendation is to contribute to an effective macroprudential policy in the EU as a whole. The ESRB can issue non-binding warnings and recommendations, but it is the Member States that decide on measures and implement them. Consequently, it is central to have clear national mandates for macroprudential policy.[24]

The ESRB recommends to the Member States that the objective of macroprudential policy should be to contribute to the safeguard of the stability of the financial system as a whole. Macroprudential policy measures must be possible to take either on the initiative of the macroprudential authority or as a follow-up to warnings or recommendations from the ESRB.

As regards organisation, the ESRB recommends that an institution or a board, composed of the authorities whose actions have a material impact on financial stability, should be responsible for national macroprudential policy. The ESRB also recommends that the central banks should play a leading role in this work.

The recommended tasks of the macroprudential authority are identifying, monitoring and assesing risks to financial stability and taking measures to prevent and mitigate these risks. Moreover, the macroprudential policy authority is also to have control over appropriate instruments to achieve its objectives. Where necessary, clear and rapid procedures for assigning instruments to the macroprudential authority should also be established.

As regards accountability, it is recommended that the macroprudential authority be operationally independent and accountable to the national parliament. In relation to this, the ESRB recommendation emphasises the importance of transparency. The macroprudential authority is to make public the strategy for macroprudential policy, as well as its decisions and their motivations.

24 The examination of the ESRB recommendation is not comprehensive. For further information see "Recommendation of the European Systemic Risk Board of 22 December 2011 on the macro-prudential mandate of national authorities (ESRB 2011/3)".

6. Motives for various actors' participation in a macroprudential authority

As has been shown there are a number of conceivable models for the institutional framework. The factors that may need to be taken into consideration in the choice of institutional framework and the actors that should play a role in it include the following:

1. The existence of potentially conflicting objectives and synergies between the different policy areas
2. The relative importance of independent decision-making and democratic control
3. Implications for Sweden's international influence.

6.1 THE EXISTENCE OF POTENTIALLY CONFLICTING OBJECTIVES AND SYNERGIES BETWEEN THE DIFFERENT POLICY AREAS

A. Trade-offs between macroprudential policy and monetary policy

In general, macroprudential policy objectives and monetary policy objectives are mutually complementary. Price stability contributes to financial stability in several ways. Firstly, a credible monetary policy with stable inflationary expectations contributes to stabilising economic activity in general, which also benefits stability in the financial system. Secondly, stable prices counteract the development of unforeseen price changes leading to financial strains and potential suspension of payments that can upset stability in the financial sector.

Conversely, a stable financial system enhances the effectiveness of monetary policy. An effective financial system is important to allow monetary policy signals to have a good impact on the real economy. Measures to strengthen stability in the financial system also reduce the risk of disruptions that spill over to the real economy.

But situations can also arise in which stability objectives and monetary policy objectives are not in agreement.

For example, in an environment with stable prices and low long-term interest rates financial imbalances can arise that are a threat to financial stability. Such an environment could become a breeding ground for such things as underpricing of risk, excessive debt and asset bubbles. In the short and medium term perspective a conflict could thereby arise between the objective of maintaining stability in the financial system and the monetary policy objective.

Another example is that of situations in which inflationary pressure increases as a result of something like severe oil and raw material price shocks, while at the same time the financial system is exposed to increasing strains. In such a situation it may be relevant to weigh conflicting measures against each other; both those that dampen inflation and those that promote stability in the financial system, and reduce the spill-over effects in the real economy.

Even if the objectives of monetary policy and macroprudential policy in the long term are compatible with each other, in the short or medium term similar trade-offs may arise as exist between monetary policy and fiscal policy.

Of course synergies may also exist between the two policy areas. If there are specific macroprudential tools at hand to cool down an overheated market, it may not be necessary to the same extent to take these overheating problems into account in monetary policy considerations.

B. Trade-offs between the macroprudential policy and microprudential supervision perspectives

That stability in the financial system benefits from security and stability in individual institutions may sound like a truism. But even if the micro and macro perspectives mostly complement each other, the differences in focus and methods can mean that trade-offs must be made between the two perspectives. Different ways of acting, which for an individual financial institution seem to be highly rational and reasonable from the point of view of risk, may in fact taken together undermine stability in the financial system as a whole. Let us illustrate this with an example.

A typical microprudential rule is the requirement of financial institutions to set aside considerably more capital for an asset with a low credit rating than for an AAA asset, for example. (Another way of expressing this is that assets with a greater risk are assigned a higher risk weight than lower risk assets).

But assume that an economic recession leads to a decrease in the credit rating for a particular asset and that all holders try to sell the asset at the same time so as to avoid higher capital adequacy requirements. The result will be that the price of the asset plummets, making it more difficult for the issuer to finance itself by issuing new securities. The issuer thus faces liquidity problems and ultimately risks insolvency. The asset's credit rating thus falls even more, giving rise to further selling by financial institutions to meet the capital adequacy requirements.

In the resulting turbulence, the risk management systems of the financial institutions also react by recommending an increase in capital to cover the total exposures. This means that the institutions are forced to sell other assets as well, which in turn leads to a general fall in prices, increased price volatility and increased securities market correlation. The risk level measured in firms increases further, and the downward spiral of sales, falling prices and liquidity problems continues.

Microprudential rules that originally seemed very reasonable for individual institutions can thus contribute to turning initially relatively isolated problems into a serious systemic crisis. The notion that the financial system would always be more secure just because individual institutions behave with greater risk awareness and prudence is in other words, wrong, a "fallacy of composition". As we have done earlier in this article, we can draw a parallel to Keynes' (1936) savings paradox ("paradox of thrift").

C. Trade-offs between macroprudential policy and fiscal policy

Fiscal policy measures can have great significance for financial stability, even if the primary purpose of the measure is often something else. But even if macroprudential policy and fiscal policy in the best case contribute to economic stability, conflicts can of course arise between financial stability objectives and other political objectives.

Fiscal policy arrangements, such as taxes and tax deduction rules, which are primarily designed from the perspective of growth or distribution, can affect financial stability. For example, tax deduction rules for interest expense that are too generous could lead to borrowers borrowing too much.

Political initiatives, such as stimulating home loans, can, as was the case in the USA, lead to far too much risktaking in granting credit (and a debt trap for the borrowers).

D. Implications for the institutional framework

When different policy areas overlap so that measures on one front affect decisions on another – either by counteracting or augmenting their effects – it is desirable to achieve some form of coordination. This can be done in different ways.

One way is to **internalise** the decisions, i.e. collect the decisions on different policy areas within one and the same body.

Another way is to use some form of **joint decision-making** or consultation that entails actively weighing different objectives or interests against each other.

In some circumstances, particularly when it is desirable that the decisions are made without political influence, joint decision-making may, however, be less appropriate. A typical example of an area where the need for independent decisions is well-established and where coordination with other policy areas, particularly fiscal policy, is at present conducted "at arm's length" is monetary policy. Such **coordination "at arm's length"** means for example that the Executive Board of the Riksbank may take fiscal policy conditions into consideration in its monetary policy decisions without needing to practice any form of active consultation with the Ministry of Finance. Nor does the Ministry of Finance need to seek active consultation with the Riksbank.

6.2 THE RESPECTIVE IMPORTANCE OF INDEPENDENCE AND DEMOCRATIC CONTROL

Macroprudential policy will probably in many cases be a matter of trying to prevent excessive credit expansion, generally or in a specific sector. Such expansion risks leading to "bubbles", which – when they burst – can cause financial instability and major costs to society. A tool that may be considered to prevent the emergence of bubbles is, for example, a loan-to-value cap. Anyone introducing such measures will not be winning any popularity contests (except possibly right after a major economic crisis). Consequently, macroprudential policy is often said to be about "*taking away the punch bowl just as the party gets going...*".[25]

In other words there are – just as for monetary policy – good arguments for taking decisions on macroprudential measures in a forum with some distance to the political sphere. To be able to establish such a forum, accountability is necessary, which would require that it is possible to evaluate how well the task has been executed. This is, however, much more difficult to do for macroprudential policy than for monetary policy.

For monetary policy we have in Sweden mainly *one* quantified target (for inflation) and mainly *one* tool (the interest rate). In addition, forecasts are made for inflation development and there is a relatively good understanding of the transmission mechanism. This is missing when it comes to macroprudential policy. There is no generally accepted quantification of the objective (financial stability), a wealth of conceivable tools could be used, there are no forecasts for financial stability and knowledge of the transmission mechanism is limited.

However, there are various ways of trying to improve accountability. Goodhart (2011) proposed that instead of targets "presumptive indicators" could be used. His idea is that fixed threshold values should be set for some measures that are important for macroprudential policy, such as credit growth in the banking sector, the rate of price increases for housing/commercial property and the development of the *leverage ratio*.

When for example two of these indicators are exceeded there is to be a statutory requirement for the person in charge of macroprudential policy to act, or explain why no action is being taken ("comply or explain"). The latter could be done by means of a public letter to the responsible authority, for example. This system would make it somewhat easier to demand accountability. In addition it would contribute to reducing the problem of tendencies towards passivity, "inaction bias".

It is also of course conceivable to have a "comply or explain" mechanism linked to other indicators than exactly those that Goodhart proposes. For example, it would be possible in principle to use increased concentration of exposures or sources of funding in the financial system as indicators of the build-up of structural risks.[26]

Clear legislation on the tools that may be considered for use is also central to improving accountability. There are in fact different views on how the toolkit for macroprudential policy should be designed and distributed. Some people argue that it is important for the macroprudential body to have its own tools. The typical example named in this context is countercyclical capital buffers, but other tools, such as capital surcharges for systemically important banks and liquidity ratios, are also discussed. Others believe that the majority of tools that may be considered are those that microprudential supervisory authorities have at their disposal today. The same tools can then be used in both microprudential supervision and macroprudential policy. From this point of view the purpose of the measure will be decisive for how it is classified.

25 The expression is usually ascribed to William McChesney Martin, Jr., who was the Chairman of the Board of Governors of the Federal Reserve System between 1951 and 1970.

26 Of course much work still remains to develop such indicators.

The discussion of macroprudential policy as a policy area is still new. The development of new tools and analysis of the effectiveness of the tools may therefore be expected to continue for many years to come. The toolbox could reasonably be adapted in view of the lessons learned both nationally and internationally.

The structure chosen for the *Financial Policy Committee*, FPC, of the Bank of England in the UK offers a solution to the above-mentioned problem. The FPC can both **decide** on how and when certain tools classified as macroprudential tools are to be used, and give **recommendations** about other tools. *HM Treasury* must give its approval for the FPC to add an instrument to the box of macroprudential tools. In this way flexibility is created, while the decision-making procedure contributes to legitimacy.

Finally, accountability can be improved by requiring far-reaching transparency. Conceivably the same forms for reporting as for monetary policy could be used for macroprudential policy. Important components could be regular reports explaining the background to macroprudential decisions and describing the assessment of risks to the financial system, published minutes of meetings (probably with some time lag) and participation in hearings in the Riksdag Committee on Finance.

6.3 IMPLICATIONS FOR SWEDEN'S INTERNATIONAL INFLUENCE

Extensive international analytical work will be conducted in the area of macroprudential policy in the next few years, not least at the *International Monetary Fund*, IMF, in Washington, where the Riksbank participates, and at the *Bank for International Settlements,* BIS, in Basel, where both the Riksbank and Finansinspektionen participate.

The area also took on a very important European dimension when *the European Systemic Risk Board*, ESRB, was established in Frankfurt in January 2011. This body is tasked with issuing warnings and recommendations for remedial actions if it identifies threats to stability of the financial system in the EU. A "comply or explain" mechanism is linked to the recommendations. This means that the recipient of a recommendation is expected to comply with it or otherwise explain non-compliance. To get a good framework for macroprudential policy in place in Europe it is also necessary to draw up a good and strong framework for macroprudential policy at national level. This is the level at which macroprudential policy decisions must be made and the tools are to be found (see also section 5.5).

Another European body of relevance to macroprudential policy is the *European Banking Authority*, EBA, which is responsible for stress tests at European level, in cooperation with the ESRB. Furthermore, *the European Central Bank*, ECB, and the national central banks in the EU conduct extensive analytical work on macroprudential policy through a common research network.

Being able to participate actively in international cooperation on macroprudential policy issues is important for a country such as Sweden, which has far-reaching cross-border integration of financial activities. The most important international cooperation body for macroprudential policy issues for Sweden is the ESRB, since it gives us the opportunity to influence the warnings and recommendations that are issued in Europe. These may of course also apply to Sweden.

The ESRB is also the natural forum in the EU when establishing principles for the use of new macroprudential policy tools with cross-border effects, such as countercyclical capital buffers.[27] Since a bank's buffer level is dependent on the buffer levels in the countries in which it operates, there are good reasons for trying to harmonise the principles for how the national buffer levels are set.

In the ESRB work the central banks have the greatest influence. The central bank governors have voting rights on the Board, though the heads of the supervisory authorities also participate in the work. The Steering Committee, which monitors the progress of the ESRB's ongoing work and prepares the decisions by the Board, includes some central bank governors (the Governor of the Riksbank is currently one of them), the heads/chairs of a number of European bodies and a few academics. The ESRB also has an Advisory Technical Committee that reflects the composition of the Board, but at a lower level. The Governor of the Riksbank currently chairs the Committee, which has also been given a central role.

The ESRB is a fairly recently established body, but it already conducts extensive work to identify and analyse risks that may affect stability in the financial system of the EU. Following the meetings of the Board, the ESRB chair or vice-chair held press conferences and reported the ESRB's view of the most important threats to stability in the EU financial system. Up to now the ESRB has also issued three public recommendations; on lending in foreign currencies, on US dollar denominated funding of credit institutions and on the macroprudential mandate of national authorities (see also section 5.5).

Moreover the ESRB has managed to work on several other issues of interest to Sweden. The ESRB has, for example, examined the emerging EU legislation for banks, infrastructure and insurance. In this work the ESRB has adopted the line that legislation should provide scope to national authorities to establish stricter rules than are decided at EU level, for example as regards capital adequacy requirements for banks.

6.4 CONCLUSIONS

We have shown that there are potentially conflicting objectives between macroprudential policy and the monetary policy, microprudential supervision and fiscal policy areas. In all three cases the natural approach is that those responsible for the different policy areas must take macroprudential policy as a given and vice versa.

The analysis also indicates that the Riksbank should play an important role in macroprudential policy. In the first place, the analytical perspective of macroprudential policy lies close to that of both the monetary policy analysis and the financial stability analysis already being conducted. In the second place, the Riksbank participates actively in the international

27 The Basel Committee on Banking Supervision has made a decision to successively introduce this macroprudential tool at national level during the period 2016-2019.

bodies where most analytical work concerning macroprudential policy will be conducted in the next few years. The ESRB is in a special position here. In the third place, the importance of the fact that decisions can be made independently of the political sphere indicates that the Riksbank should play a central role.

At the same time Finansinspektionen should play an important role in macroprudential policy. The main reason is that Finansinspektionen currently has most of the tools that may be used in macroprudential policy. In addition Finansinspektionen makes some overall analysis of financial stability and has operative knowledge and practical experience of regulation and implementation of supervisory measures.

Consequently, a reasonable conclusion is that both the Riksbank and Finansinspektionen should play central roles in macroprudential policy.

In a *crisis management phase* the Ministry of Finance would also play a clear role, since measures that could affect the central government budget may then be under consideration. Likewise the Swedish National Debt Office would have an important function as state aid agency. As has been mentioned, since 2008 there has been a financial stability council for financial crisis management established through a Memorandum of Understanding between the Riksbank, Finansinspektionen, the Ministry of Finance and the Swedish National Debt Office. These four authorities meet at least twice a year to discuss preparedness for financial crisis management.

In the every-day *preventive* work that a macroprudential body is intended to carry out, it is, however, difficult to see a clear role either for the Ministry of Finance or the Swedish National Debt Office. On the contrary, there may be reason to keep the political system at arm's length from decisions on macroprudential policy and the Swedish National Debt Office has no obvious role to play in this work.

Apart from the authorities, a number of independent members, such as academics and people with experience of the industry – though not active industry representatives – could contribute complementary perspectives and angles of approach.

In summary, a reasonable point of departure for continued discussions seems to be that macroprudential policy should be exercised by a body in which both the Riksbank and Finansinspektionen play prominent roles, referred to below as a *macroprudential council* (the Council). (We will illustrate alternative organisation models in section 8). In addition, it may be justified to involve independent members. However, it is difficult to find strong motives for the active participation of the Ministry of Finance or the Swedish National Debt Office.

7. Considerations in the choice of institutional model

The next question is how such a macroprudential council should best be designed. It is important to find the structure that creates the best conditions for both identifying threats to stability in the financial system and for counteracting them. The structure should also be as cost-effective as possible for society. To find that structure we first need to discuss the tools, mandate and forms of decision-making of the Council, as well as the legal conditions for its operations and funding.

A. What should be the tools of the Council?

As pointed out earlier, certain "pure" macroprudential tools will be introduced in the next few years. The *Basel Committee on Banking Supervision* within the Bank for International Settlements (BIS) has for example decided to introduce countercyclical capital buffers and special surcharges for global systemically important financial institutions, SIFIs. It is highly likely that further macroprudential tools will be developed in the course of time, since a lot of research and development work is being conducted in this new policy area.

Many of the already existing tools that could be used for macroprudential purposes exist in Finansinspektionen's toolbox. This applies for example to capital adequacy requirements, risk weights, liquidity buffers, mortgage ceilings etc.

The Riksbank could also potentially be given tools that can be used for macroprudential purposes. For example the possibility of using minimum reserve requirements to promote financial stability has been discussed.

Other bodies, such as the Swedish Competition Authority or the Swedish Consumer Agency also have tools that could be used to reduce the threats to financial stability.

B. What decision-making powers should the Council have – and how is accountability affected?

One basic question is how far the Council's mandate is to extend. Should it be able to decide, i.e. issue binding instructions on, concrete macroprudential policy measures, issue non-binding recommendations, or only be a discussion club?

Since there is a tendency towards passivity in macroprudential policy it is important to create structures that facilitate prompt decision-making. This would suggest that the Council should have its own decision-making powers with the right to issue binding instructions. If there is a council with decision-making powers, this also shows clearly that macroprudential policy is a separate policy area, which has a responsible body with its own tools. The tools on which the Council could issue binding instructions are the *"pure" macroprudential tools* discussed above. These tools should also be clearly specified in law.

There will only be a few of these "pure" macroprudential tools, at least in the next few years. There are therefore reasons to discuss whether a decision-making council should not also have the possibility of influencing the use of *other tools* to the extent they can be used in macroprudential policy. This mainly applies to the tools that Finansinspektionen has. If the Council were to get direct decision-making powers over these tools the boundary between the Council's and Finansinspektionen's mandates would, however, become unclear. At the same time it would be unfortunate if the Council did not have the possibility of influencing their use, if they are effective in reducing systemic risk. One way of balancing these various considerations would be to give the Council a mandate to *recommend* to different authorities, such as Finansinspektionen, the use of traditional tools for macroprudential purposes. A "comply or explain" mechanism could be linked to the recommendations.

Another – and opposite – alternative would be to create a council that only constitutes a discussion club. This would certainly reduce the problem of conceivable tools being in the domain of several different authorities, since each actor would then have to act within the framework of its own mandate with its own tools. However, at the same time such a structure risks creating an unclear distribution of responsibilities, and in the worst case, an unfortunate interplay between the actors involved. This may for example result in no-one acting, with reference to the argument that the other party can do it more effectively, or in the parties making different assessments and counteracting each other's measures by the use of their tools. A further problem of divided responsibility is that there will be no creation of a body where the "pure" macroprudential tools to be introduced in the next few years under *the Basel Committee on Banking Supervision* decision can be naturally placed.

A middle variant would be to have a council that only gives recommendations, possibly linked to a "comply or explain" mechanism. This would make macroprudential policy clearer as a new policy area than a discussion club would, but a council without decision-making powers over its own tools would pull less weight than a decision-making council. Having an advisory council and one or more responsible authorities would also make accountability more difficult.

C. What would be the voting rules and allocation of votes?

For good decision-making capability the Council should make decisions by simple or possibly qualified majority. Even though the ambition is consensus, this should not be a requirement for a decision. If there is concern that the Council will act too easily, a qualified majority may be appropriate, which the ESRB requires for adopting recommendations and publishing warnings and recommendations (while only a simple majority is required to adopt warnings). However, historical experience tends rather to show recurring difficulties in taking these uncomfortable decisions, which points towards choosing a simple majority and facilitating decision-making as much as possible.

How are the votes in the Council to be allocated? Bearing in mind the need for decision-making powers, it would be best if the votes were not allocated 50/50 between the Riksbank and Finansinspektionen. In that case one of the parties must have a casting vote. Given the considerations discussed above, it would be preferable for the Riksbank to have a slight majority, which could be achieved for example by making the Governor of the Riksbank the chair with a casting vote.

If there are only two parties in the Council, this would mean, however, that the Riksbank would always draw the longest straw in decision-making situations, if the Riksbank representatives were unanimous. This means that Finansinspektionen's influence would risk being well restricted.

An alternative would be to also include some independent experts on the Council and, as a suggestion, to give the three participant groups a third of the votes each. This would create better balance in that neither the Riksbank nor Finansinspektionen would have an independent majority. The independent experts would in that case have special knowledge of the financial markets, but not in any way be or be seen as representatives of the industry. They could, for example, be appointed by the other representatives in the macroprudential council, who would probably have a good overview of the people who might be suitable. If the Council were to be an authority under the Riksdag it could also be conceivable – for the purpose of strengthening legitimacy – for the Riksdag Committee on Finance to appoint them. One way of both deriving benefit from the knowledge of other council experts and strengthening legitimacy would be to have a process in which the independent experts were appointed by the Riksdag Committee on Finance after first being nominated by the members of the Council.

As mentioned before, it is necessary (regardless of how the Council is composed) to decide if the Ministry of Finance (and possibly the Swedish National Debt Office) should participate, with or without the right to vote. The argument in favour of the participation of the Ministry of Finance is that the Government prepares the decisions on some of the tools that could be considered (such as rules concerning tax deductions). The argument against the participation of the Ministry of Finance concerns what can be gained from independence, as discussed above. The conclusions of these considerations depend on the importance attached to each aspect. The international literature often presents independence as central. This would be an argument against the participation of either the Ministry of Finance or the Swedish National Debt Office, at least as regards voting rights.

D. What are the possible legal structures for the Council?

It is also essential to identify what is legally possible and appropriate in relation to Swedish administrative tradition.

According to the Government Agencies Ordinance there are three government agency formats for government authorities:

- Agencies led by a director-general, which are solely accountable to the Government for the agency's operations. A Director-General governed agency is chosen if more direct management of the agency is needed, where political decisions must be implemented without delay.
- Agencies led by a board, where the board is responsible while the day-to-day work is conducted by a director-general or equivalent. Finansinspektionen is a board-governed agency. Characteristic of a board governed agency is that the operations are extensive, which increases the need for a strong leadership. Other reasons for choosing this management structure may be that the operations are conducted as a business, entail extensive financial liability or entail research-intensive and knowledge-generating activities.

- Agencies where a committee makes the decisions, i.e. collective decision-making (committee agencies). A committee agency is characterised by having a defined and limited area of responsibility, a small organisation and business that requires a collective form of decision-making. The functions are often regulated by law.

The Government Agencies Ordinance applies to administrative agencies under the Government. The Government Agencies Ordinance does not apply to authorities under the Riksdag, but these authorities are usually committee agencies.

If several different authorities are to be represented and exert influence on equal terms the committee structure would be the most appropriate.

E. How do constitutional provisions and EU rules affect the choice of institutional structure?

Apart from certain provisions in the Instrument of Government there are above all three rules in the Treaty on European Union that may be significant for the choice of institutional structure for macroprudential policy, since they affect the conditions of the Riksbank's participation. They are the prohibition on giving instructions, the financial independence requirement and the monetary financing prohibition.

(i) *The EU Treaty prohibition on instructions*

Under Chapter 9, Section 13 of the Instrument of Government, the Riksbank has responsibility for monetary policy. No authority may determine the decisions made by the Riksbank on issues relating to monetary policy.

This ban on giving instructions is based on Article 130 of the Treaty on European Union, where it states that no national central bank (or member of its decision-making body) shall seek or take instructions from other bodies, including the Government. The governments of the Member States undertake to respect this principle and not to seek to influence the members of the decision-making bodies in the performance of their tasks.

The ban on instructions, under the EU Treaty, covers all monetary policy decisions and other central bank tasks specified in Article 127, including holding and managing the official foreign currency reserves and promoting smooth operation of payment systems.

The interesting question in the choice of institutional form for macroprudential policy is how broadly the last-mentioned task should be interpreted; that is promoting smooth operation of payment systems. It is not likely that the EU countries in general had financial stability in mind when the Maastricht Treaty was written. A more reasonable assessment is that the Treaty on European Union was referring to the payment system in a narrow sense, in other words the central infrastructure for payments that is necessary to conduct effective monetary policy.

It is also difficult to imagine that it was intended to give the central bank exclusive responsibility for financial stability. A more reasonable interpretation is that the ban on instructions in the EU Treaty, as far as the Riksbank is concerned, applies to monetary policy and the RIX system, but hardly macroprudential policy measures in general.

(ii) *Other prohibitions against instructions in the Instrument of Government*

Apart from the special prohibition on instructions in the Instrument of Government, Chapter 9, Article 13, see above, in Chapter 12, Article 2 there is also a prohibition in principle on an authority deciding how an administrative authority should decide in a particular case relating to the exercise of public authority in relation to an individual or relating to the application of law. The provision is intended to protect *due process* and in part sets limits, above all on the influence of the Government and individual ministers over government authorities. However, the provision should not prevent the allocation of responsibility between a decision-making and an executing authority through legislation. The question of the authorities' independence in relation to each other must, however, be observed carefully in the legislative work.

(iii) *The financial independence requirement*

The same Articles (127 and 139) in the EU Treaty that establish the prohibition on instructions also entail an implied requirement that the central banks must be financially independent. This means that a central bank must have sufficient financial resources to independently perform its duties and meet its commitments.

The Riksbank's financial independence was the subject of a review a few years ago.[28] However, pending further processing in the Government Offices the issue of how the (implicit) financial independence requirements of the EU Treaty are to be interpreted has not yet been finally decided. The interesting question in this context is to what extent the requirement affects the possibilities of choosing different funding solutions for a macroprudential body. The question of financing is developed further in section F.

(iv) *Prohibition on monetary financing*

Under the Maastricht Treaty it is not allowed for a central bank to participate in issues of goverment debt or otherwise directly purchase debt instruments from its own state or otherwise provide credit to its own government. This is the prohibition on monetary financing in Article 123(1) of the EU Treaty. Put differently, it is not allowed to inflate the balance sheet of your own country by printing your own money. The exception is intraday credit to ensure the functioning of the payment system.

The background to the prohibition is that if a central bank finances the central government budget deficit it is in conflict with the primary task of the central bank of maintaining price stability.

Sweden is subject to the prohibition as of its membership of the EU in 1995 and has incorporated it into Chapter 8, Article 1 of the Riksbank Act: "The Riksbank shall not

28 Swedish Government Official Report SOU 2007:51.

extend credit to or purchase debt instruments directly from the state". In consequence, the Riksbank also decided to change to purchasing government securities on the secondary market instead of directly from the National Swedish Debt Office as it had done previously. In the preparatory works the Government writes that "An abolition of all possibilities of monetary financing of public budget deficits will contribute to increasing the credibility of monetary policy and thereby the possibilities of achieving permanently low and stable price growth and low interest rates".

Another way of granting credit to the government may be to carry out, i.e. meet the cost of, central government commitments and in that way finance the budget by printing money. For example, if the Riksbank were to give liquidity assistance to an evidently insolvent bank then the Riksbank would have assumed a commitment that is not the task of a central bank – but that of central government – and thereby be guilty of monetary financing.

There are various conceivable models for financing a macroprudential body's operations. The interesting question is if the prohibition on monetary financing in any way restricts the possibilities of the Riksbank to finance part of the operations, such as a secretariat. This is developed further in section F below.

F. How should the Council's work be prepared and financed?

It would seem neither socio-economically desirable nor cost effective to build up a new body with major analytical resources of its own. The knowledge and experience required is already available, mainly at the Riksbank and Finansinspektionen. In addition, in a small country like Sweden, access to the necessary qualified analytical capacity is limited. The body should therefore utilise the resources of the Riksbank and Finansinspektionen.

Since the analytical focus of macroprudential policy is close to that of the Riksbank, it is reasonable for the Riksbank to assume the major part of the analytical preparatory work ahead of decisions, recommendations and advice. This would be an argument for setting up a secretariat for the Council within the Riksbank.

The work of checking compliance with the measures decided, which is considerably less resource-intensive than the preparatory work, would, however, most naturally lie with Finansinspektionen, at least as regards countercyclical capital buffers and extra surcharges for SIFIs.

Financing of the resources for analysis from the Riksbank and Finansinspektionen that the Council needs could be done in various ways. One possibility is that the Riksbank and Finansinspektionen themselves pay for the work contributed by the respective organisation to macroprudential policy. Another option is for the Riksbank to pay for the Council's entire operations. A third possibility is that the Council receives its own funding, for instance via fees from the financial sector, and pays the Riksbank and Finansinspektionen for the resources they contribute.

The *first* alternative – that the Riksbank and Finansinspektionen themselves pay for the resources they contribute to the Council – seems to be a simple and straightforward solution. It should not be difficult to legislate to give the Riksbank responsibility for financing a secretariat and the preparatory analysis for the Council. As long as the Council carries out tasks that are within the scope of the activities a central bank can be expected to conduct it is not a matter of monetary financing.

In light of the fact that Finansinspektionen, which is an authority under the Government, can be subject to future changes in political priorities, there may be some uncertainty about Finansinspektionen's ability to make a stable contribution to macroprudential policy for a long time to come. When the crisis starts to be forgotten it may be more difficult for Finansinspektionen to obtain the resources needed for macroprudential policy than in times when these issues are high on the political agenda.

A *second* alternative is therefore that the Riksbank also meets the cost of the analysis and follow-up of macroprudential decisions made within Finansinspektionen.

The ECB has deemed it compatible with the monetary financing rules that a national central bank puts resources at the disposal of a supervisory authority. However, this is on condition that the financing is within the statutory remit of the central bank or that the central bank contributes to, or has influence over, the supervisory authority's decisions.

Both these financing solutions would work, provided the Riksbank is responsible for macroprudential policy or a macroprudential council is established under the Riksdag. In both cases, however, the Riksbank must have a statutory remit that entails an active role in macroprudential policy. If on the other hand Finansinspektionen was to be responsible for macroprudential policy it would be neither appropriate nor possible for the Riksbank to finance the activities, as this would probably be classified as monetary financing. The macroprudential policy would then instead be covered by the Government budget.

The *third* alternative – that the Council finances its activities through fees – would mean that the Riksbank and Finansinspektionen would receive compensation from the Council for the costs they have incurred in contributing to its activities. The fees that would in that case finance activities should be paid in by the financial sector institutions in accordance with a formula that needs to be specified. An advantage of such a solution is that financing of the Council would be transparent. The solution also implies that the costs of macroprudential policy will be charged to the financial sector, which seems reasonable from a socio-economic point of view. As a comparison it can be mentioned that the activities of Finansinspektionen are almost entirely fee-financed.

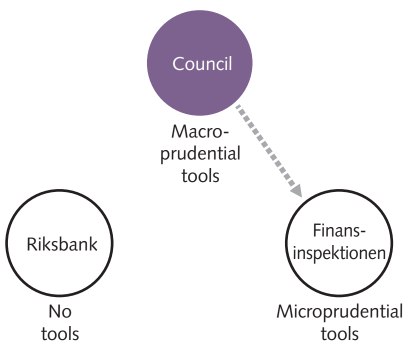
8. Alternative models

In light of the arguments put forward we present two possible models based on the idea of a council. The alternative would be that either the Riksbank or Finansinspektionen would be independently responsible for macroprudential policy or that the Riksbank issues recommendations to Finansinspektionen on the use of tools. A total of five conceivable institutional models are described in this section.

A. Separate decision-making authority (council) under the Riksdag
B. Separate recommending authority (council) under the Riksdag
C. The Riksbank issues recommendations and Finansinspektionen is responsible for the tools
D. The Riksbank is responsible for macroprudential policy
E. Finansinspektionen is responsible for macroprudential policy

The most important advantages and disadvantages of the various models are discussed below.

A. Separate decision-making authority (council) under the Riksdag



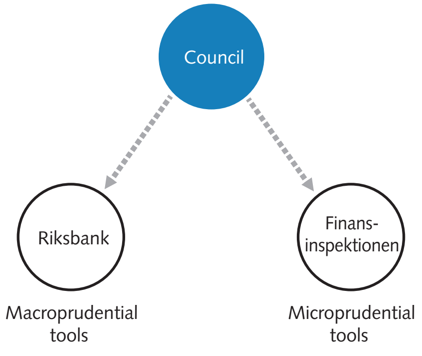
This alternative means that a macroprudential council (the Council), with representatives of the Riksbank, Finansinspektionen and independent experts, will be established as a separate authority under the Riksdag. It will have the powers to decide on the use of "pure" macroprudential tools, at present mainly the countercyclical capital buffers. At least as important is that the Council is able to give recommendations, from a macroprudential perspective, concerning tools that are currently available in the toolboxes of Finansinspektionen or other authorities. It would be appropriate to link a "comply or explain" mechanism to the recommendations.

This solution has many advantages. An important advantage is that it will become clear that macroprudential policy is a new policy area, with a separate responsible authority. Clear responsibility is very important from an accountability perspective. The solution further implies that the Riksbank's and Finansinspektionen's different types of expertise are utilised in the decisions on macroprudential policy. The location on "neutral territory" creates a balance between the Riksbank's and Finansinspektionen's influence on the work. Moreover decisions on macroprudential policy measures will be taken quite independently of the political system. With this structure the Council will have good prospects of learning from international bodies that conduct research and analysis on macroprudential policy. This solution also means that the Council can more easily influence decisions in the macroprudential policy area in both the EU (via the ESRB) and international bodies (such as the BIS and the IMF), which may be of great importance to Sweden.

The arrangement has many similarities with the structure created for the *Financial Policy Committee,* FPC, in the Bank of England.

Thus this solution gathers all the "pure" macroprudential tools with the Council. As described earlier, in the current situation there are not many of these tools, but more will probably be developed as new knowledge and experience is gained in this policy area. The Council should therefore also be able to increase its macroprudential toolkit by making a submission to the Riksdag.

B. Separate recommending authority (council) under the Riksdag



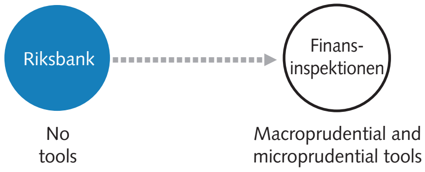
In this alternative we establish an authority under the Riksdag, with the same composition as in the previous case, which can issue recommendations to both the Riksbank and Finansinspektionen (and also to other authorities), but not make decisions on the use of any tools. In this case too we imagine that a "comply or explain" mechanism will be linked to the recommendations.

Allowing an authority under the Riksdag to issue recommendations on how the Riksbank should use its macroprudential tools is constitutionally possible, provided these tools are not covered by the prohibition on instructions. As earlier analysis has indicated, "pure" macroprudential tools should not create any problems with the prohibition on instructions.

A recommending council, however, has a number of drawbacks in relation to a decision-making council. The Council will be weaker and less clear as a representative of a new policy area where it has no tools of its own to enforce the measures it wishes to see. Decision-making in the area of macroprudential policy will probably be more sluggish and there is a greater risk that the measures the Council sees as necessary will not be implemented. Moreover, it will be more difficult to demand accountability and macroprudential policy will also be less transparent when there is not just one responsible body.

However, the structure also shares several of the advantages of the previous structure. Both the Riksbank's and Finansinspektionen's joint competence is used (albeit only in recommendations and not decisions). The Council is located on "neutral territory". The independence from political influence will possibly be even stronger, as the Riksbank in the end will decide on the use of its own macroprudential tools. Finally, the conditions for efficiency in international work should be approximately the same.

C. The Riksbank issues recommendations and Finansinspektionen is responsible for the tools



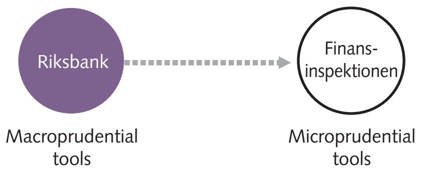
A third solution would be to give the Riksbank the possibility of issuing recommendations on macroprudential policy measures, linked to a "comply-or-explain" mechanism, instead of having a Council to do this, as in the previous case. Responsibility for decisions concerning macroprudential tools is placed with Finansinspektionen.

This structure has the same drawbacks as the previous one, with lack of clarity concerning responsibility for macroprudential policy, sluggish decision-making and accountability problems. Another weakness is that the knowledge and skills of the Riksbank and Finansinspektionen will not join together in the decisions, which is unfortunate since previous analysis has indicated the value of such cooperation.

In terms of resources, the structure is also inefficient, since it leads to duplication of work, in that both the Riksbank and Finansinspektionen must have separate analytical frameworks to assess which macroprudential measures should be taken. Further, macroprudential policy will be less independent, since the decisions will be made by an authority under the Government. Conditions for international cooperation will probably also be worse, since Finansinspektionen – which makes the decisions on macroprudential policy measures – does not have the same access as the Riksbank to international bodies which are active in this field.

An advantage of this solution is that Finansinspektionen would gain access to almost all tools that may be used in both macroprudential policy and microprudential supervision, and thereby be well placed to decide which instruments are best in a situation that arises.

D. The Riksbank is responsible for macroprudential policy



A fourth solution would be to assign responsibility for macroprudential policy, including the responsibility for macroprudential tools, to the Riksbank. This would mean that decisions on macroprudential policy would be taken by the Executive Board, without any outside party sharing in the decision-making. In addition the Riksbank could be given the opportunity to give recommendations to Finansinspektionen on the use of their tools for macroprudential purposes, again linked to a "comply-or-explain" mechanism.

Advantages of this solution are that it creates clarity concerning responsibility and makes it possible to demand accountability in a sound way, macroprudential policy can be conducted independently of political influence and Sweden will be well equipped to receive and give input in the international work relating to macroprudential policy. The solution also makes it possible for the Executive Board to deal with any conflicting objectives between monetary policy and macroprudential policy and weigh up the use of the different tools in the best way.

There are, however, also disadvantages associated with this solution. Finansinspektionen's knowledge is not utilised in macroprudential policy decisions. Additionally, it would be unfortunate if decisions on macroprudential policy and microprudential supervision were taken in isolation from each other.

E. Finansinspektionen is responsible for macroprudential policy

A fifth solution would be to assign entire responsibility for macroprudential policy to Finansinspektionen. This solution is seldom mentioned in international literature and neither the IMF, Goodhart and Rochet nor the Fiscal Policy Council mention this structure when they discuss possible allocation of responsibility for macroprudential policy (see section 5). It would, however, be theoretically possible, and consequently we nevertheless discuss it here.

There are natural reasons for this proposal not being mentioned very often in the literature – it has several disadvantages.

In the first place – in light of the fact that macroprudential policy has considerable points in common with monetary policy – it would be problematic if the Riksbank did not play any part in macroprudential policy. In the second place, the Riksbank's financial stability analysis would not be put directly to use in macroprudential policy. In the third place, macroprudential supervision would be considerably less independent of the political sphere, since Finansinspektionen is an authority answerable to the Government. In the fourth place, Sweden's opportunities of influencing international research and analysis on macroprudential policy would probably be weakened.

A considerable disadvantage of this solution is that it cannot be regarded as economically efficient. Most of the resources for analysis needed for macroprudential policy exist within the Riksbank, but if responsibility for macroprudential policy lay with Finansinspektionen then Finansinspektionen would also have to do the preparatory work. This would mean considerable duplication of work, since the Riksbank must also make similar analyses in the course of its ordinary work. To this can be added the risk that the quality of macroprudential policy would suffer as Sweden – being a small country – has only a few people with the special skills needed to make the difficult analytical assessments required by macroprudential policy.

The advantages of this solution are that it creates a clear allocation of responsibilities and gives Finansinspektionen plenty of scope to determine which instruments are best in a situation that arises, since almost all tools that can be used in both macroprudential policy and microprudential supervision would be gathered in the same place.

9. Conclusions

The global financial crisis has shown how necessary it is to reform financial supervision. The traditional institution-focused microprudential supervision needs to be supplemented by system-oriented macroprudential policy. Both the Riksbank's and Finansinspektionen's competence need to be utilised for macroprudential policy to be effective.

Pending a decision on a long-term organisational solution for macroprudential policy, as mentioned before, the Riksbank and Finansinspektionen set up a council for cooperation on macroprudential policy in January 2012 in order to discuss assessment of systemic risks and macroprudential policy issues. The council for cooperation is a good beginning. However, it is more in the nature of a discussion club than a decision-making body. In the long term macroprudential policy needs an even more clear-cut role and distinct status as a separate policy area. To create an appropriate framework for macroprudential policy that will be effective in the long-term we consider that the following factors are of crucial importance.

- **Effective decision-making powers:** Good decision-making powers assume a clear mandate as well as effective and clearly defined tools. Since macroprudential policy is an emerging policy area, legislation also needs to clarify the forms for complementing the tools that are currently available with new tools in the future.

- **Independence:** The body that is made responsible for macroprudential policy needs to stand free of pressures, both from politicians and the financial industry.
- **Accountability:** If the macroprudential body is given considerable independence then it must be possible to demand accountability for how it has acted or refrained from acting. A precondition for effective accountability is that the mandate and tools are clearly defined. The mandate, for example, could include a requirement that the macroprudential body acts, or explains publicly why it refrains from taking action, when some pre-determined levels for key variables are reached. Demanding accountability would also be facilitated by requirements for far-reaching transparency and reporting, for example to the Riksdag.
- **Analytical capacity:** Another requirement is a large and sustainable capacity for analysing risks to the financial system as a whole and what may be appropriate measures for preventing these risks. Stable financing of the macroprudential body is required to guarantee this capacity over time.
- **Sweden's international influence:** A macroprudential supervisory body also needs to be able to act effectively internationally, above all within the framework of the European Systemic Risk Board, ESRB.
- **Efficient and effective use of public resources.**

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