Stefan Ingves: Managing structural risks in the Swedish banking sector

Speech by Mr Stefan Ingves, Governor of the Sveriges Riksbank and Chairman of the Basel Committee on Banking Supervision, at Affärsvärlden's "Bank & Finans Outlook", Stockholm, 20 March 2013.

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Today I intend to speak about the Riksbank's view of the structural risks in the Swedish banking sector and how they can be managed. As so often in recent years, I will take the crisis of 2007–2009, and the risk reassessments that banks, investors, researchers and decision-makers all over the world were forced to make as a result of the crisis, as my starting point. I will begin by saying a few words about the international work on regulations that arose as a consequence of the crisis. Then I will go into a little more detail about the structure and special characteristics of the Swedish banks. On the basis of this, I will present my view of the possible implications of the implementation and follow-up of the Basel III regulations for the Swedish banks.

The risks associated with banking operations need to be limited

First, however, I would like to give you a small example of the risks we are talking about.

The US mortgage crisis became acute in 2007 and marked the start of the global financial crisis. At that time, the capital adequacy ratio, that is the amount of capital in relation to risk-weighted assets, in the major Swedish banks averaged around 7 per cent. This means that for every SEK 1 000 in risk-weighted assets, the banks funded their operations with SEK 70 of their own money and with SEK 930 in borrowed money. This is in fact a rather generous calculation and includes capital that turned out be of dubious quality.

Decisions had also been made at that time that allowed the banks to use their own internal risk models to a greater extent to calculate their capital adequacy requirements. The banks were thus able to substantially reduce the risk weights of their assets, including mortgages, in the long term. The major banks' internal risk models indicated that the risks associated with mortgage lending were extremely low. In several cases this meant that the risk weight of a typical mortgage could easily be as low as 6 per cent, which meant that only 6 per cent of the mortgage would need to be covered. With a capital adequacy ratio of 7 per cent and a risk weight for mortgages of 6 per cent, this meant that a bank could fund each SEK 1 000 of a mortgage loan with SEK 996 in borrowed money and SEK 4 in its own money. The risk the bank itself took when it lent SEK 2 million for the purchase of a house thus corresponded to SEK 8 000 of its own capital. There were in fact transitional regulations that initially meant that the banks were not able to calculate so liberally, but these were the regulations that would apply in the longer term and thus those that the banks and investors, and often the authorities, primarily focused on.

Given that the banks, in Sweden and in other countries, only needed a small amount of capital, and given that it was often assumed that they were backed by government guarantees, it was highly profitable for them to take substantial risks. The banks themselves carried only a small part of these risks, while it turned out that the banks' customers and the taxpayers had to carry the major part. In several countries – Spain, Ireland and Denmark for example, in addition to the United States – we have seen how substantial falls in the prices of the banks' assets, mainly in the form of mortgages, have led to major economic problems.

The point is that the risk capital that the banks and their shareholders provide is limited to the value of the share capital. But society's risks are greater than this. A mainstream assessment in economic research is that a national crisis in the financial system costs the economy around 60 per cent of GDP. In Sweden, this would be equivalent to over SEK 2 000 billion, or more than SEK 200 000 per Swede. This is more than two and a half times the joint stock market value of the four major Swedish banks at the turn of the year 2012/2013.

In Sweden, we succeeded in managing the acute phase of the financial crisis in 2008 and 2009 in a way that made it possible to limit the costs to society. One contributing factor was probably that the crisis of the 1990s was fresh in the minds of the banks and they thus limited their risk-taking more than might otherwise have been the case, at least with regard to their operations in Sweden. As we know, not all countries were as lucky. The negative effects of the crisis are still in evidence in large parts of the world – not least in several countries in central and southern Europe – and will probably remain so for some time to come.

In retrospect, it is easy to note that the combination of shortcomings in the regulations and the profit motives of the participants on the financial markets contributed to one of the worst financial crises of the modern era. The details regarding the build-up of risk and the course of the crisis have been described several times and I will not repeat them here. It is enough this time to note that banks with a limited amount of capital and banks with a high degree of market funding proved to be vulnerable when the storm broke.

These insights from the crisis lie behind the regulatory work that is now underway in Sweden and abroad today. There is broad agreement that risk-taking in the banking sector must be limited and that its costs must be taken into account by the banks and their investors to a greater extent. Important steps have been taken in this direction in the global agreement on future standards for regulations in the banking sectors referred to as the Basel III Accord. The worlds' banks will be safer when this is implemented, which will benefit everyone.

Basel III increases the safety margins in the system

The Basel III regulations represent the introduction of much-needed standards that will require the banks to hold more and better capital. The minimum requirement for CET 1 capital, that is share capital and retained earnings, will be raised to 4.5 per cent of the risk-weighted assets. In addition to the minimum requirements there will be a capital-conservation buffer, a countercyclical capital buffer and a buffer for systemically-important banks, which all sharpen the requirements for the level of CET 1 capital. In total, the Basel III Accord will represent a capital-adequacy requirement of 7 to 12 per cent of CET 1 capital depending on how important the bank is in a global systemic perspective and where the country's economy is in the credit cycle. This is a much higher level than previously.

The countercyclical capital buffer is particularly interesting. This will be built up in good times, when credit growth is higher than normal, with the aim of creating airbags to protect the banking sector in troubled times. So far, this is the instrument on which international agreement has been reached in the field of macroprudential policy, that is a policy that comprises measures to prevent financial crises that are directed at the system as a whole.

A *leverage ratio* requirement will also be introduced under which, irrespective of risk weights, a bank's assets may not exceed 33 times its own capital. A leverage ratio requirement represents an extra safety measure that also limits the banks' possibilities to use internal risk models to actually keep risk weights down.

Basel III also sets quantitative standards for the banks' liquidity, a short-term (*Liquidity Coverage Ratio*, LCR) and a long-term (*Net Stable Funding Ratio*, NSFR). The short-term measure means that every bank should have sufficient liquid assets to survive for at least 30 days in a stressed scenario. The long-term measure, in principle, limits the gap between the maturity of a bank's assets and the maturity of its liabilities.

The standards stipulated in the Basel III Accord will be implemented in national legislation during the 2010s and should be implemented in their entirety by 2019, with several interim targets along the way.

Establishing better regulations on the banks' capital and liquidity represents a major step forward. However, in a wider perspective we can note that even in the future the worlds' banks will have capital that only amounts to a few per cent of their assets. This is almost within the margin of error for a valuation of the total assets. The equity/assets ratio in the banking sector is only one fifth, or even one tenth, of that for companies in other sectors.

However, a central element of the Basel III Accord is that the standards are *minimum regulations* – countries that want to impose stricter requirements may and should do so. We have already seen cases of this – for example in the United States, the United Kingdom and Switzerland. Decisions have also been made in both the United States and the United Kingdom on more structural measures to protect the central functions of the financial sector, for example through the Dodd-Frank Act and the follow-up of the Vickers Report. In the EU, the Liikanen Report has taken up the issue of ring-fencing, that is separating the different operations of the banks from each other.

The reason is that the financial systems are different in different parts of the world. It is therefore important to design regulations that are tailored to the banking system that has to comply with them. We also need to maintain a respectable distance to the minimum regulations. Considering what we know about the Swedish banking system, there are good reasons for ensuring that Swedish banks comply with the global standards by a broad margin.

The Swedish banking system is special

It is thus important to put the Swedish banking system into perspective. The total domestic and foreign assets of the four major banking groups amount to 400 per cent of Sweden's GDP. In other words, out banking system is huge. Relatively speaking, it is on a par with the banking system in the United Kingdom, for example. The Swedish banking system is also highly integrated, which means that problems in one bank can easily lead to a crisis of confidence for the entire system. If we were hit by a financial crisis, the costs to society could thus be very high.

With this in mind, I intend to focus in more detail on two vulnerabilities in the Swedish financial system that are interlinked. The first is the indebtedness of the Swedish households. The second is the banks' funding in foreign currencies and their dependence on the currency-swap market.

The Swedish mortgage market has structural weaknesses

An issue that has been widely discussed recently is the indebtedness of the Swedish households and the risk of a fall in housing prices. Experience in several countries has shown that indebtedness and the development of housing prices are the main explanations of why some countries are hit harder than others during economic crises. Similarly, crises that are preceded by a credit and housing boom tend to be longer and more severe than other economic crises.[1] A fall in housing prices may lead households to save rather than consume in order to compensate for the fact that the value of their homes has fallen. If many households behave in this way, this may weaken economic activity, increase unemployment and create loan losses in the banks' lending to companies. This, for example, is what has happened in our neighbouring country Denmark in recent years.

What we can note is that the credit conditions for mortgages changed in the early 2000s. Interest-only mortgages became increasingly common at the same time as the loan-to-value ratios increased. The banks also began to fund mortgages by issuing so-called covered

[1] See Claessens, S., A, Kose, and M, Terrones (2011), "Financial Cycles: What? How? When?", IMF Working Paper. CEPR Discussion Paper, NO.8379.

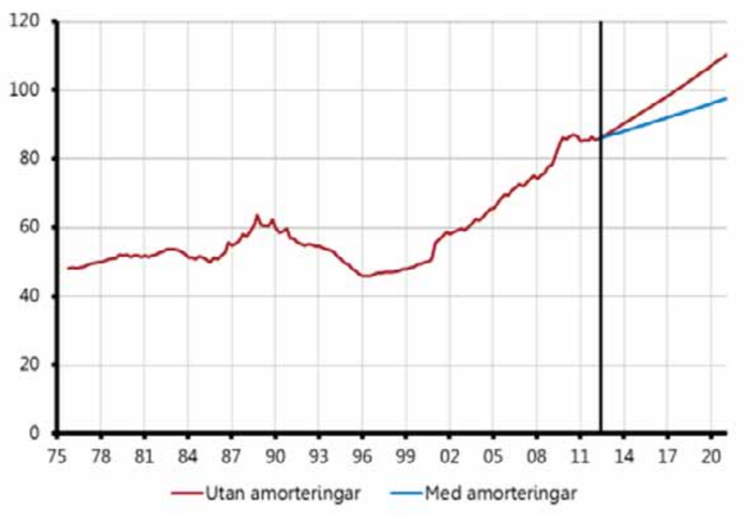
bonds on the financial markets to an increasing extent. Easy access to inexpensive funding in combination with a high demand for mortgages led to rapid credit growth. Now, the debts of the Swedish households are high in both historical and international terms. Although the rate of credit growth has slowed down and loan-to-value ratios have fallen – the mortgage cap introduced in 2010 has probably contributed to this – there are still structural weaknesses on the Swedish mortgage market.

For instance, the mortgage survey recently published by Finansinspektionen identifies one such weakness: approximately half of all new mortgages are interest-only loans.[2] This increases the scope for the households to take larger loans, which in turn increases the debt stock. Figure 1 shows household debt in relation to disposable income. It also illustrates how indebtedness in the household sector grows under different assumptions about amortisation. This raises a number of questions about the future. For example, how will the average loan-to-value ratio in the banks' mortgage stocks develop when older mortgages are paid off and new interest-only mortgages are paid out? What will the long-term consequences of a weak or non-existent amortisation culture be for peoples' private finances, the national economy and expectations of economic policy? These are questions that we are considering and that we will analyse further together with Finansinspektionen.

Figure 1

Household debt under different assumptions regarding amortisation behaviour

Percentage of disposable income



Note. The figure presents a simple illustrative calculation of how indebtedness may develop given different assumptions about the households' amortisation behaviour in the future. The figure should not be interpreted as the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank.

The banks' extensive market funding in foreign currencies makes the system vulnerable

Another structural weakness in the Swedish banking system is that the degree of market funding is high. We can see this, for example, by looking at lending in relation to deposits. Lending is significantly higher in the Swedish banking system than in many other European

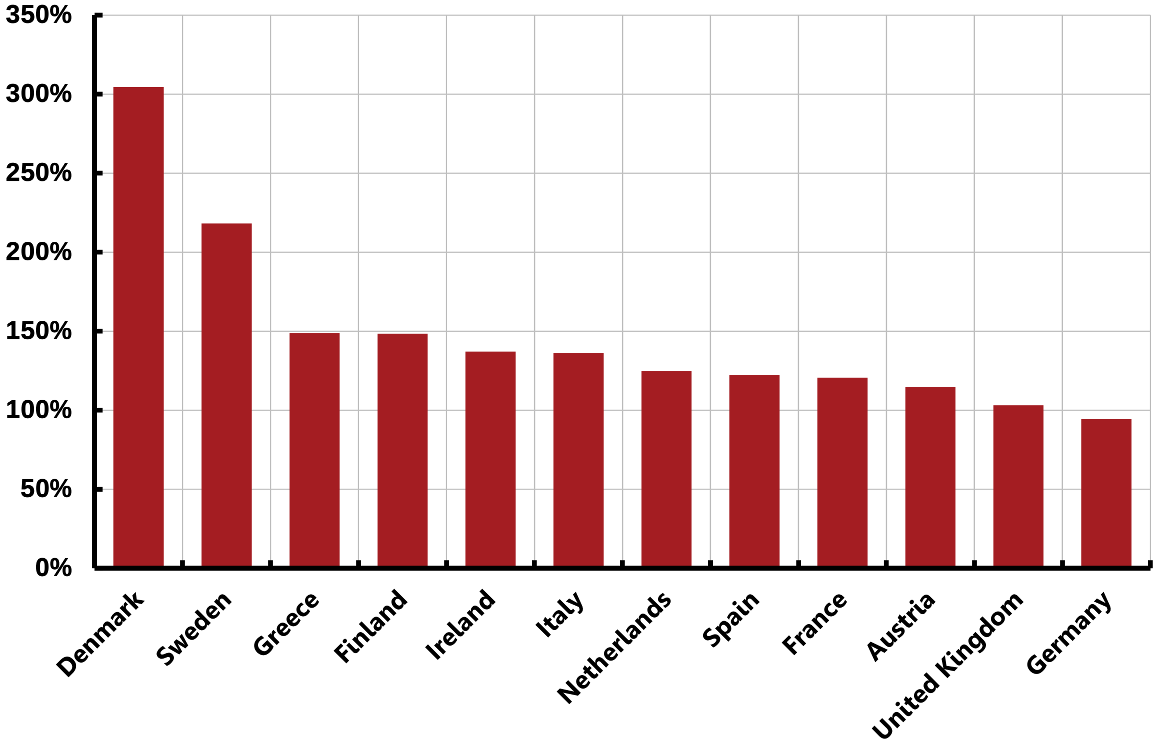
2 According to Finansinspektionen's mortgage survey 2013.

countries (see Figure 2). This is partly because Swedes to a large extent save in funds rather than in bank accounts. Another reason is that Swedish banks retain their mortgage loans on their balance sheets, while banks in many other countries "sell" them or securitise them.

Figure 2

Lending in relation to deposits in the banking systems of European countries

Per cent



Note. Refers to monetary financial institutions

Sources: The ECB and the Riksbank.

Swedish banks are thus highly dependent on the capital markets to fund their lending. A large proportion, almost 45 per cent, of the funding from the capital markets is in foreign currencies. This borrowing funds assets in both Swedish kronor and foreign currencies. This dependence on market borrowing in foreign currencies gives rise to two risks. The first relates to the extent to which participants are prepared to buy the banks' mortgage bonds and when necessary convert borrowing in foreign currencies to Swedish kronor. The second lies in the fact that the maturities for assets and liabilities in foreign currency differ.

Few counterparties fund the long-term lending in Swedish kronor

The borrowing in foreign currencies also funds lending in Swedish kronor to some extent, for example for housing purposes. The Swedish banks typically fund their mortgage loans by issuing covered bonds for which the mortgages act as collateral. A large proportion of these bonds are issued in foreign currencies, mainly euro and US dollars.

The reason that the banks have chosen to get funding on the foreign markets is probably that they want to spread their sources of funding across different markets. This is also something that the credit-rating agencies encourage. It has also often proved to be an inexpensive method of funding mortgage loans. However, broadening the investor base may also mean that it consists of a larger percentage of volatile investors. Problems on the Swedish housing market may therefore lead to the banks finding it difficult to refinance their mortgage loans. We actually believe that the banks can manage rather substantial falls in the market value of housing, but if the investors' assessment is that the risk have increased they may choose not to buy the Swedish banks' bonds, despite the fact that they only entail a minor credit risk. Such concerns may also make other types of market funding more expensive and more inaccessible if the investors choose to reduce their exposures to the Swedish banking sector.

We saw examples of this in the autumn of 2008, when foreign investors wished to offload Swedish mortgage securities and the market demand for more liquid instruments, particularly Swedish government securities, increased. The Swedish National Debt Office then carried out extra issues of treasury bills and provided loans through reverse repos in covered mortgage bonds. At the same time, the Riksbank expanded its list of approved forms of collateral. All in all, this meant that in principle the government assumed the risk that lay in the outstanding stock of Swedish mortgage loans.

In order to convert borrowing in foreign currencies to lending in Swedish kronor without taking a currency risk, the banks usually conduct currency swaps. In simple terms, this is done like this: A Swedish bank borrows euros in Germany at a maturity of five years. However, as the bank does not really need the euros but needs kronor to fund mortgage loans to Swedish households, the bank has to exchange the euros for kronor. To protect itself against the currency risk, the bank enters into a currency swap in which the euros are exchanged for kronor today under an agreement to exchange the kronor back to euro at a predetermined rate in five years' time. In this way the bank matches the currencies of its assets (the mortgages) and its liabilities and thereby eliminates the currency risk.

The Swedish banks are thus dependent on acquiring kronor in the long-term from a counterparty in a currency swap. They can in principle do this in three ways: through a foreign bank, another Swedish bank or an insurance company.

Today, it is often a foreign bank that acts as the counterparty in these swaps. The foreign banks do not themselves usually have any natural access to Swedish kronor. They therefore fund part of their lending in kronor by borrowing kronor in the short-term from other Swedish banks. However, the risk is that foreign investors will leave the Swedish market if problems arise, as the Swedish krona is a small currency. There are also reasons for believing that the number of foreign banks that act as counterparties to the Swedish banks is limited. Moreover, participating in the swap market is often not a central part of the operations of the foreign banks. This in turn has consequences for liquidity and pricing on the swap market. We saw an example of this when the last extraordinary loan that the Riksbank had offered the banks during the crisis matured in the autumn of 2010. Uncertainty then arose on the money market, and consequently swap counterparties abroad who had acquired short-term funding in kronor through Swedish banks became less willing to enter into swap agreements with Swedish banks. It thus became both more expensive and more difficult for Swedish banks to convert foreign currency into Swedish kronor at long maturities.

To a certain extent, Swedish banks also act as counterparties to each other in the swaps. However, from the perspective of the Swedish banking system this is really only a matter of redistributing the maturity risk. The fact that the banks act as counterparties to each other also forges the links within the Swedish banking system even tighter.

A natural counterparty for the Swedish banks could be the Swedish life insurance and pension companies. These companies have long-term liabilities in kronor in the form of pension savings that they partly invest in assets abroad. At present, these companies are not active on the long-term currency swap markets to any great extent.

The Swedish banks are therefore dependent on a tight circle of counterparties on the currency swap markets. A small and concentrated market means in turn that there is a considerable risk of disruptions and contagion effects.

Long-term assets and short-term funding in foreign currencies create risks

Swedish banks have substantial assets in foreign currencies and also have a deposit deficit, that is they are dependent on market funding. As a large part of this market funding is short term, a liquidity risk in foreign currency also arises. The US dollar is a currency for which this risk is clear. Following the collapse of Lehman Brothers, when the dollar market was practically closed for a while, the Riksbank needed to lend the equivalent of almost 250 billion kronor in US dollars to the banking system to prevent the liquidity risk spreading to the real economy. However, as the Riksbank cannot create liquidity in foreign currencies in the same way as it can in Swedish kronor, there are limits on the size of the liquidity risks the banks can take in foreign currencies without posing risks to financial stability. There are therefore good reasons for the banks to examine the matching of the maturities of their assets and liabilities in foreign currencies.

The market for bank certificates in kronor has shrunk

It is not only long-term funding that takes place in foreign currencies. A large part of the banks' short-term funding also takes place in foreign currencies, mainly US dollars and euros. The Swedish banks are, for example, important counterparties for US money-market funds. Sweden is the second-largest European market for the money-market funds – larger than the United Kingdom or Germany. Although this indicates a high level of confidence in the Swedish banks, it also entails risks. During the crisis, we saw that the money-market funds were among the more volatile investors. A high degree of funding from the money-market funds also makes the banks dependent on US regulatory frameworks and legislative processes.

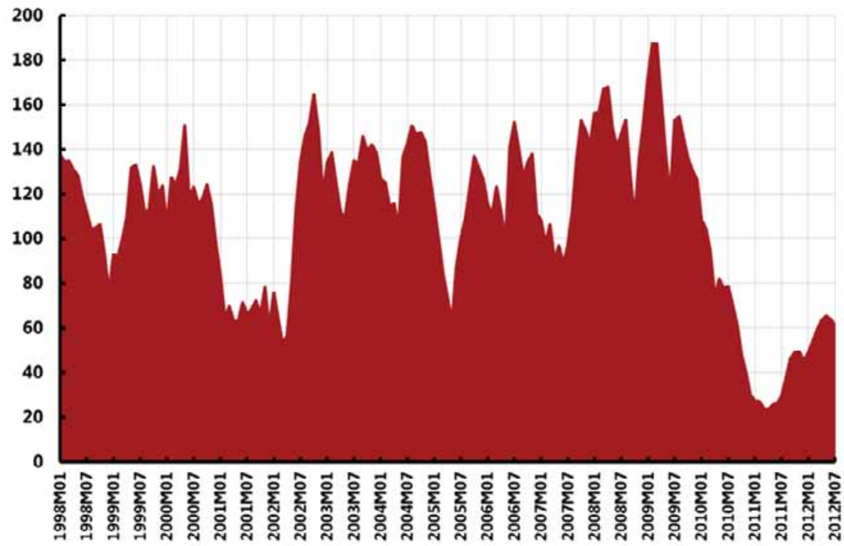
For short-term funding in Swedish kronor there is a market for bank certificates. However, this market has shrunk (see Figure 3). We may wonder why this market has declined so dramatically when it seems that there should be incentives to maintain it. A thriving domestic market for bank certificates in kronor would increase the banks' scope for diversification. Their dependence on markets in foreign currencies and on the swap market would be reduced. Although these markets usually work well and Swedish banks currently have a good reputation among investors this does not always need to be the case, as we saw in 2008 and 2009.

We should of course think about how to create a liquid market for bank certificates in kronor. One problem is that the benefits of such a market fall to the banks collectively while the costs in the form of higher borrowing costs fall to each bank individually. In this perspective it may be necessary to investigate whether the costs that each individual bank pays for its short-term funding in foreign currencies reflects the true costs to the Swedish financial system and Swedish society.

Figure 3

Outstanding certificates issued by banks in Swedish kronor

SEK billion



Note. Refers to certificates issued by banks, mortgage institutions and other credit institutions.

Source: Statistics Sweden

Swedish conditions require a complement to the reform agenda

The Swedish banking system is thus marked by a number of characteristics that make it somewhat special in an international perspective – characteristics that either increase the risk of problems or the economic costs to society if problems arise in the banking sector. There are therefore good reasons for establishing a safe margin – a respectable distance – to the minimum regulations in the Basel III Accord.

As you know, we have already taken several steps to strengthen the Swedish banking system, over and above the commitments that Basel III entails.

In November 2011, the Riksbank, the Ministry of Finance and Finansinspektionen announced that the four major Swedish banks would meet the capital adequacy requirements of 10 per cent of the risk-weighted assets from 1 January this year and of 12 per cent from 1 January 2015. All of the four major banks now have CET 1 ratios that are higher than 10 per cent according to the definition in Basel III. Three of the banks are also above 12 per cent.

The Swedish authorities have also said that the banks should meet the short-term liquidity measure in Basel III (the LCR) both in total and separately for the euro and the US dollar. This requirement has been compulsory for the eight largest Swedish banks since 1 January this year.[3]

The Riksbank has also recommended the banks to improve their public information on liquidity risks and the degree of encumbered assets. This is because greater transparency increases both confidence and market discipline. I am pleased to say that the banks' public

[3] These are Nordea, Swedbank, Handelsbanken, SEB, SBAB, Svensk Exportkredit, Kommuninvest and Länsförsäkringar Bank.

reporting has improved in line with the Riksbank's recommendations, although some work still remains to be done (see Table 1).

Table 1

The banks' public information on liquidity risks

Information available per quarter	Liquidity buffer	Breakdown of maturities, assets and liabilities	Breakdown of maturities, assets and liabilities *per currency*	LCR (Liquidity Coverage Ratio)	Comparable key ratios	Information on encumbered assets
	Q3 2012 Q1 2012	Q3 2012 Q1 2012	Q3 2012 Q2012	Q3 2012 Q1 2012	Q3 2012 Q1 2012	Q3 2012 Q1 2012
Handelsbanken	● green (● green)	● green (● green)	● green (● red)	● green (● red)	● red (● red)	● red (–)
Nordea	● green (● green)	● green (● green)	● green (● red)	● green (● red)	● red (● red)	● red (–)
SEB	● green (● green)	● green (● green)	● green (● red)	● green (● green)	● red (● red)	● red (–)
Swedbank	● green (● green)	● green (● green)	● green (● red)	● green (● green)	● red (● red)	● green (–)

● green	Complies with the minimum level in accordance with the Riksbank's recommendations
● red	Absent or only marginally reported
–	Has not previously been assessed

Source: Financial Stability Report 2012:2

These measures have contributed to the relative stability of the Swedish banks. But I don't think we have finished yet. The financial system is important, and the risks in the system must be constantly reviewed. Let me give you some examples of areas that I believe will need to be investigated.

As I mentioned earlier, the Swedish banks' high dependence on market funding entails an increased risk that they will suffer liquidity problems in a stressed situation. It is of course always possible for the Riksbank to lend Swedish kronor, but it is unreasonable for the banks to take liquidity risks based on the expectation that the Riksbank will provide extraordinary loans if things do not go according to plan. *The ability of the banks to comply with the Liquidity Coverage Ratio in the Basel III Accord should therefore be investigated.*

The differences in the maturities of the banks' assets and liabilities in foreign currencies that I described above are also a potential source of concern in more troubling times. The Riksbank cannot after all offer unlimited liquidity in any other currency than our own. As you know, the Riksbank has therefore recently strengthened its foreign-exchange reserve so that in a situation in which the foreign-exchange market is seriously disrupted the Riksbank will be able to provide extraordinary loans in US dollars and euros. The aim of course is to strengthen the Riksbank's preparedness to safeguard the basic workings of the financial system and thereby help us to avoid major economic costs. *Given that all the Swedish banks benefit from the Riksbank's foreign-exchange reserve, it would not be unreasonable for them to share the costs of maintaining it.* If we can price this in an effective way it will also give the banks an incentive to reduce their own currency risks. This would reduce the risks to financial stability in the Swedish economy.

It is of course no secret that we are also looking at mortgage loans from the asset side in the banks' balance sheets.

As I have already pointed out, the banks' risk weights are very low. Finansinspektionen intends to begin applying a risk-weight floor of 15 per cent for the banks' portfolios of Swedish mortgage loans. *The Riksbank supports the proposal for a risk-weight floor of 15 per cent. We also believe that there are good reasons for analysing whether this floor needs to be raised even further.*

One important reason is that the public sector and non-financial companies would have to bear a large part of the risk if the debt-servicing ability of the households were to weaken.

I have also spoken about the risks arising from the fact that a large proportion of the mortgage loans are interest-only loans. In this context, the Swedish Bankers' Association's recommendation that all mortgages that exceed a loan-to-value ratio of 75 per cent should be amortised is of course welcome, although one may ask whether this is enough. Mortgages were amortised to a greater extent a few decades ago, at the same time as inflation automatically reduced the real debt ratio. I believe that more amortisation may be needed, especially in the current situation with low and stable inflation. However, before the authorities impose amortisation requirements it may be worth reviewing other aspects of the provision of loans. One example may be how different amortisation alternatives are presented to the borrowers. Another may be to demand that the borrowers have the financial scope to amortise their loans at a certain rate. *The important thing is to restore an amortisation culture* so that the households' margins are safeguarded and the economy is protected.

The Riksbank focuses on these issues because we wish to safeguard the Swedish financial system. All our analysis and all our measures aim to reduce the risk of Sweden incurring major economic costs when the banking sector gets into trouble.

As a complement, Sweden also needs to put a clear framework for macroprudential policy in place. The global financial crisis demonstrated the need to complement traditional financial supervision – micro supervision – which focuses on risks in individual institutions, with supervision that focuses on the risks in the financial system as a whole. In January, the Financial Crisis Commission presented an interim report which proposed how responsibility for macroprudential policy could be allocated in Sweden. We will therefore need to consider the Riksbank's stance on this issue. A guiding principle for us is that the body that is given responsibility for macroprudential policy needs a clear mandate with both the right and obligation to take action against risks that arise and appropriate tools that can be used to limit the risks.

The discussion of macroprudential policy also comprises the issue of the Riksbank's balance sheet, and particularly the foreign-exchange reserve. As you know, the inquiry conducted by Harry Flam recently presented its proposals. Here too, the Riksbank is in the process of formulating its stance.

The public are entitled to expect that the authorities act to prevent and manage financial crises in the best possible way

All of the things I have talked about here are measures that aim to reduce the risk of a financial crisis recurring, or to limit the damage if a financial crisis nevertheless breaks out.

The international process that has come to expression in the Basel III Accord is creating better regulations for the banks in all countries. This also benefits us here in Sweden.

Over and above this, however, we have to manage the Swedish banking system and its special characteristics. Sweden is a small open economy with its own currency and large banks. We need special regulations. This means that we, like a number of other countries, want to proceed more quickly and impose stricter requirements than those in the Basel III

Accord. However, the measures we have taken so far have already clearly strengthened the Swedish banks.

The financial sector is central in every modern society. We cannot afford recurring crises that threaten the basic functions of the financial sector. The public are entitled to expect that the authorities act to prevent and manage financial crises in the best possible way. Regulations that cover the special characteristics and structural risks of the Swedish banking sector are central instruments in the work to promote financial stability.