Financial Stability Report 2012:2

SVERIGES RIKSBANK

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The Riksbank's Financial Stability Report

The Riksbank's Financial Stability Report is published twice a year. The Report describes the Riksbank's overall assessment of the risks and threats to the financial system and of the system's resilience to them. The work on the analysis of stability is accordingly an instrument that is directly connected with the Riksbank's function of promoting a safe and efficient payment mechanism. By publishing the results of this analysis, the Riksbank wishes to draw attention to, and warn of, risks and events that might entail a threat to the financial system, and to contribute to the debate on this subject.

The Executive Board of the Riksbank discussed the Financial Stability Report on three occasions – 8, 21 and 27 November 2012. The Report takes into account data available as of 21 November 2012. The report is available on the Riksbank's website www.riksbank.se, where a printed version can be ordered free of charge or downloaded as a PDF.

The Riksbank and financial stability

- The Riksbank has the Riksdag's mandate to promote a safe and efficient payment mechanism. Achieving this requires a stable financial system so that payments and the supply of capital function well. In practice, the task means that the Riksbank is responsible for promoting financial stability. The Riksbank defines financial stability as meaning that the financial system can maintain its basic functions – the mediation of payments, the conversion of savings into funding and risk management – and also has resilience to disruptions that threaten these functions.
- The Riksbank is the authority that has the capacity to grant emergency liquidity assistance to individual institutions if problems arise that threat financial stability. To be able to use this possibility in the best possible way, the Riksbank needs to have good preparedness for crises in the form of an efficient crisis organisation with good information channels and tools for analysis, as well as well-developed cooperation with other authorities.
- The Riksbank does not have the sole responsibility for promoting financial stability. It shares this responsibility with Finansinspektionen (the Swedish financial supervisory authority), the Ministry of Finance and the Swedish National Debt Office. The Ministry of Finance is responsible for the regulation of financial enterprises and Finansinspektionen is responsible for supervision. The authorities' interaction is important both in the preventive work and in the event of crisis management. The same also applies internationally as financial enterprises increasingly operate across national borders.
- The financial system plays a vital role in the economy. It is necessary to have a stable and smoothly-running financial system for the economy to function and grow. A serious crisis in the financial system is liable to entail extensive economic and social costs.
- The financial system is sensitive. This sensitivity is due to central parts of the system, such as banks and markets, being vulnerable. Banks are vulnerable mainly because they fund their operations at short maturities but lend at longer maturities. This imbalance makes the banks dependent on the general public and the market having confidence in them. If the market participants' confidence in their counterparties or for the financial instruments traded in the market declines, trading may suddenly come to a halt. The various parts of the financial system are also closely interconnected, for instance in that financial institutions borrow from and trade with one another to such a large extent. This means that problems that arise in one institution or on a market can rapidly spread throughout the system. Contagion effects may also arise through a general decrease in confidence for similar activities.
- The combination of the sensitivity of the financial system and the large potential costs of a financial crisis mean that the state has a particular interest in preventing threats to financial stability. Banks and other market participants do not have an incentive to give full consideration to the risks to financial stability to which they are contributing. This is because a large percentage of the costs of a financial crisis fall to others both within and outside the financial system. If a crisis occurs, the government also needs to be able to manage it at the lowest possible cost.
- The Riksbank analyses the financial system's stability on a continuous basis for the early detection of changes and vulnerabilities that could lead to a crisis. The main focus of the analysis is on the four major banks (Handelsbanken, Nordea, SEB and Swedbank) and on the markets and infrastructure that are important for their funding and risk management. These banks together account for around 75 per cent of the market and thus have decisive significance for financial stability in Sweden. The Financial Stability Report, published twice a year, presents the Riksbank's view of the risks and the banks' capacity to cope with any shocks.
- In some cases the Riksbank recommends specific measures to counteract risks. These recommendations may be based on the current economic situation. But they may also relate to more structural circumstances and stem from current regulatory issues. The recommendations can be aimed at banks as well as other market participants, or at legislators and other authorities.

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Summary

The major Swedish banks are financially strong at present and have good access to funding. The debt crisis in the euro area constitutes the largest risk to the financial stability in Sweden. The major banks have good resilience to weaker economic developments in the short term, but there are several structural weaknesses in the Swedish banking system that may have a negative impact on financial stability in the longer term. The Riksbank therefore recommends that the major banks ensure that they have sufficient capital and liquidity. The Riksbank also recommends reforms of the benchmark rate Stibor.

The resilience of the major banks is good

The major Swedish banks, Handelsbanken, Nordea, SEB and Swedbank, are financially strong at present. Their earnings have increased and their loan losses have been limited. The major banks are also relatively well capitalised in comparison with many other European banks and have only minor exposures to the countries in the euro area with sovereign debt problems. These factors have contributed to a situation in which the major banks have good access to market funding in both Swedish kronor and foreign currencies. However, it is expected that developments on the financial markets will continue to be marked by unease in the period ahead and the assessment for the coming year is that growth will be weak in both the euro area and Sweden. Nevertheless, the profits of the major banks before loan losses are expected to increase during the forecast period 2013-2015. Good earnings and low loan losses are also expected to enable the Swedish banks to continue to fund their operations on the international markets.

Developments in the euro area constitute the largest risk to financial stability in Sweden

Despite the fact that the major Swedish banks are financially strong at present, a serious deterioration of the situation in the euro area could have a negative impact on their access to funding. Although the banks have increased their liquidity buffers, their great dependence on foreign market funding may make them vulnerable to increased unease on the financial markets. A serious deterioration of the situation in Europe, compared to main scenario, could also increase the banks' loan losses, above all on lending to small and medium-sized companies. Moreover, a severe decline in economic activity could contribute to a fall in housing prices in Sweden. As household debt in Sweden is currently at an historically-high level, there is a risk that this would ultimately have a negative impact on the Swedish economy and the major Swedish banks. However, stress tests indicate that the banks have good resilience to increased loan losses.

The major banks should ensure that they have sufficient capital and liquidity

Although the Swedish banks' resilience is good in the short term, there are several structural weaknesses in the Swedish banking system that could have a negative effect on financial stability in Sweden in the longer term. For instance, the banking system is closely interlinked with international markets and is large in relation to the Swedish economy. The Riksbank therefore recommends the major banks to reduce their structural liquidity risks and ensure that they have sufficient capital to manage any future losses and market disruptions. The Riksbank also believes that the banks should improve the transparency of their public reporting. They should, for instance, be clearer in their reporting of encumbered assets.

The benchmark rate Stibor needs to be reformed

According to the Riksbank's study of the benchmark rate Stibor there are no signs of any manipulation of the benchmark rate. However, the Riksbank has identified a number of shortcomings in the framework for Stibor. For example, there is no individual agent with overall responsibility for Stibor and the structure for the governance and control of the Stibor processes is unclear. In addition, the transparency concerning the pricing of Stibor is inadequate and it is difficult to verify how Stibor is determined, particularly for longer maturities. The Riksbank therefore recommends that Stibor should be reformed to deal with shortcomings in its framework and to ensure that confidence in this benchmark rate is maintained.

1. Stability assessment and recommendations

The Riksbank considers the stability of the Swedish financial system to be strong at present. The major Swedish banks are financially strong, with good access to wholesale funding. Developments in the euro area constitute the largest risk to financial stability in Sweden. If the situation in the euro area were to seriously deteriorate, it could affect the major banks' access to funding. Although the banks have increased their liquidity buffers, their large dependence on wholesale funding in foreign currencies makes them vulnerable to increased unease on the financial markets. A prolonged recession in the euro area could also increase the Swedish banks' loan losses. Moreover, a severe deterioration in the economy could cause housing prices in Sweden to fall, which would ultimately have a negative impact on the Swedish economy and the Swedish banks. Stress tests do indicate, however, that the Swedish banks have good resilience to higher loan losses. But there are a number of structural weaknesses in the Swedish banking system that could have a negative effect on financial stability in the longer run. The Riksbank therefore recommends that the banks ensure that they have sufficient capital and liquidity and improve their public reporting. In addition, the Riksbank recommends that the Stibor benchmark rate should be reformed to remedy shortcomings in its framework and to safeguard confidence in Stibor.

The Riksbank's assessment of stability

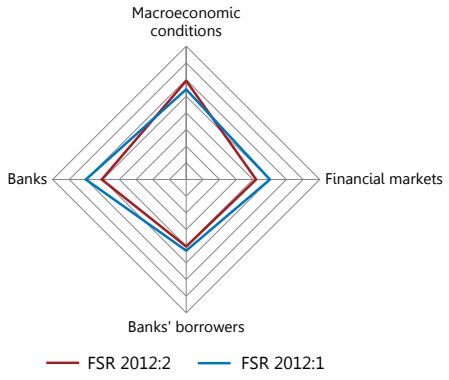
THE CRISIS IN THE EURO AREA IS CONTINUING TO CHARACTERISE DEVELOPMENTS ON THE FINANCIAL MARKETS

Since the previous Financial Stability Report was published, unease on the financial markets has dampened, which has also affected the market's assessment of the Swedish banks (see Chart 1:1[1], Chart 1:2 and Chart 1:3). This is because authorities and politicians in the euro area have taken important initiatives that provide the euro area countries with sovereign debt problems with the conditions to carry out the necessary measures. Among other measures, banks in several countries need to be recapitalised. The debt-ridden countries in the euro area also need to put their public finances in order and improve their competitiveness. As the unease on the financial markets has decreased, several European banks have found it easier to obtain funding. Many banks in countries with weak public finances, on the other hand, are still dependent on the European Central Bank (ECB) for their funding.

AT PRESENT, THE SWEDISH BANKS ARE FINANCIALLY STRONG

The Riksbank assesses that the stability of the Swedish financial system is strong at present, despite the problems in the euro area. Economic developments have been stronger in Sweden than in the euro area. As a result, demand for credit from households and companies has been comparatively good, which has benefited the Swedish banks' earnings. Loan losses have also been minor and the banks are well-capitalised compared with many other European banks (see Chart 1:4). However, the leverage ratio is relatively low in the Swedish banks (see Chart 1:5), as their assets are largely

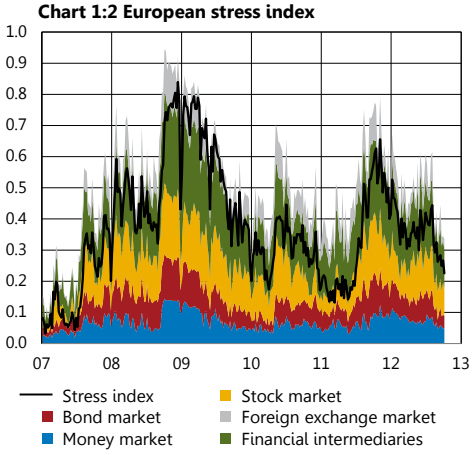
Chart 1:1 Stability web



Note. The chart depicts a summary of a larger number of variables in each respective area. Higher values, which lie at the edge of the chart, reflect a greater degree of instability or a higher systemic risk, while lower values, which lie close to the centre of the chart, reflect less instability or a lower systemic risk.

Source: The Riksbank

Chart 1:2 European stress index



Note. The European stress index is produced by the ECB and published in the ESRB's Dashboard. The stress level at a certain point in time takes a value between zero and one, where one represents the historically highest stress level and zero represents the historically lowest stress level. See *CISS - A composite indicators of systemic stress in the financial system*, Kremer et al., Working Paper Series no 1426 March 2012, ECB.

Source: ECB

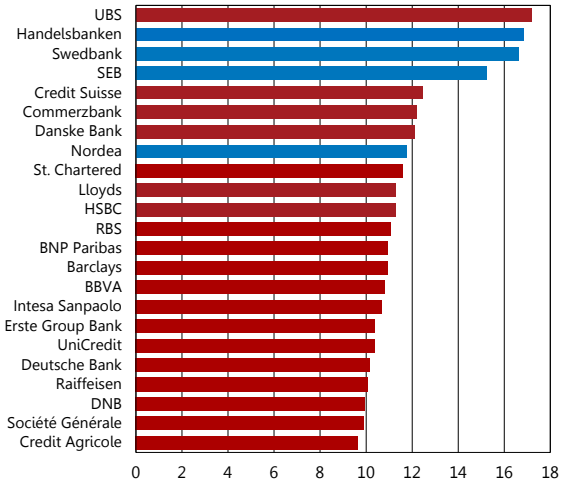
[1] See Economic Commentary *Cobweb charts as a tool for summarising the stability assessment*, 28 November 2012.

Chart 1:3 Systemic risk indicator for the Swedish financial system
Probability, per cent

Note. The indicator shows the probability of all four major banks becoming distressed. See A systemic risk indicator for the Swedish banking system in the *Financial Stability Report 2011:2*, Sveriges Riksbank.

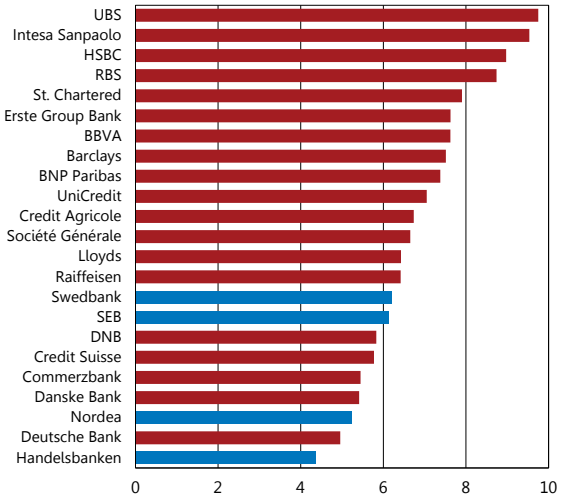
Source: The Riksbank

Chart 1:4 Core Tier 1 capital ratios in accordance with Basel II
June 2012, per cent



Sources: SNL and the Riksbank

Chart 1:5 Adjusted leverage ratio
December 2011, per cent



Note. The measure shows the banks' equity in relation to their total assets minus reverse repos, derivatives and insurance assets. The measure should not be confused with the leverage ratio according to Basel III.

Sources: Liquidatum and the Riksbank

comprised of mortgage lending, which is associated with lower risk weightings than in most other countries.

The Swedish banks have good access to wholesale funding, even to markets that have periodically been difficult for other banks to access and completely inaccessible to banks with greater problems. Also the financial infrastructure the banks are using and which is overseen by the Riksbank has functioned well.

HIGH INDEBTEDNESS AMONG SWEDISH HOUSEHOLDS

Even if household indebtedness is now increasing more slowly than before, debts in Sweden are still at an historically-high level. This is also reflected in the so-called credit gap (see Chart 1:6). The credit gap is a simple indicator that shows how much indebtedness in the economy deviates from the long-run estimated trends. It has proved to be a useful indicator for predicting financial problems since a positive credit gap signals increased risk in the financial system. The credit gap is used in the Basel III Accord to determine the size of the capital requirement for banks. To compensate for the risk the credit gap indicates, the capital requirement (Pillar 1) would have to be higher than it is at present, if the Basel III Accord's so called countercyclical capital buffers had been mechanically applied (see Chart 1:7).[2,3]

Households are highly indebted, both historically and compared with other countries. In addition, there is a great variation in indebtedness between households, with new borrowers, above all in the metropolitan regions, being significantly more indebted than average. Furthermore, the majority of these new borrowers are not amortising their mortgages, which could have major consequences for the future development of overall indebtedness. Even though the mortgage cap has probably played an important part in restraining the increase of household debt, it cannot be ruled out that other measures, such as amortisation requirements or loan limits in relation to household income, will also be needed to further reduce the risk that household indebtedness will reach unsustainable levels.

THE MAJOR SWEDISH BANKS' EARNINGS ARE EXPECTED TO INCREASE WHILE LOAN LOSSES REMAIN UNCHANGED

In the Riksbank's main scenario for 2013–2015, the development of the financial markets in the period ahead is expected to continue to be characterised by unease. Growth in the euro area is also deemed to be weak. The weaker economic developments abroad mean that growth in the Swedish economy will slow down, as will demand for credit among Swedish companies and households.[4]

[2] See also "Countercyclical capital buffers – An illustrative example", *Financial Stability Report 2011:1*, Sveriges Riksbank.
[3] The countercyclical capital buffer is a buffer requirement above and beyond the minimum capital requirement. If a bank's capital levels do not completely cover the buffer requirement, this will entail restrictions on share dividends, bonus payments and the like.
[4] The main scenario is based on the macroeconomic forecasts used as a basis for the *Monetary Policy Report* published in October 2012.

Despite this, the major Swedish banks' profits before loan losses are expected to increase in the forecast period. This is partly because the banks' lending to households and companies is growing and partly because the banks' costs are not expected to increase as much as their incomes. The banks' loan losses are expected to amount to SEK 34 billion during the main scenario's three years (see Chart 1:9). Strong earnings and low loan losses are expected to contribute to the Swedish banks continuing to have good access to funding on the international financial markets.

DEVELOPMENTS IN THE EURO AREA STILL CONSTITUTE THE LARGEST SINGLE RISK TO FINANCIAL STABILITY IN SWEDEN

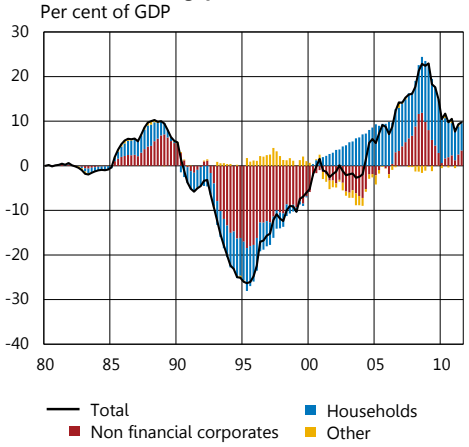
Market unease has declined somewhat during the autumn, but the uncertainty over developments in the euro area remains considerable (see Chart 1:8). The crisis in the euro area thus constitutes the single largest risk to the Swedish financial system. This view is shared by the market participants, responding to the Riksbank's risk survey.[5] It is also evident from the risk survey that market participants consider that risks have increased over the past six months.

If negotiations on the euro area's new support measures take too long, or if the measures are not carried out, unease on the financial markets may rapidly increase. Unease may also increase if the debt-ridden countries do not succeed in adopting the reforms necessary to correct the underlying problems. In such a situation, the banks and states in the euro area that are presently able to obtain funding on the markets would probably face renewed difficulties in obtaining funding. This, in turn, would risk affecting lending to households and companies as well as the development of the real economy in the euro area. As public finances are already weak in many countries and monetary policy is expansive, there is limited scope for further stimulation of the economy. The recession in the euro area thus risks being prolonged if the financial markets are impacted by new shocks or increased uncertainty.

The Swedish banks are particularly dependent on the functioning of the financial markets. For example, their short-term wholesale funding is almost exclusively in foreign currency. Furthermore, the banks' structural liquidity risks in foreign currency are often higher than they are in Swedish kronor.[6] At present, the Swedish banks have access to the financial markets. But if financial stress increases substantially as a result of a deteriorated situation in the euro area, even financially-strong banks may find it difficult to gain access to wholesale funding. Given the size of the Swedish banks' foreign funding (see Chart 1:10), such a scenario may have large economic consequences for Sweden.

The Swedish banks may also be affected if the recession in the euro area becomes deeper and more prolonged than in the main

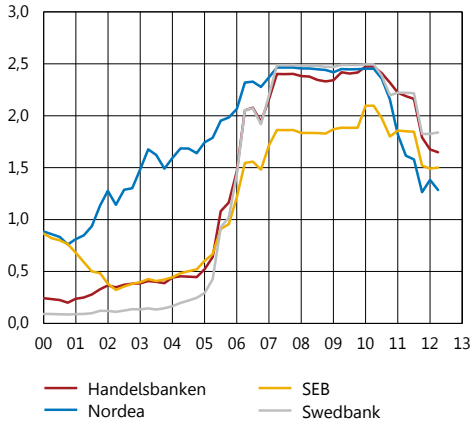
Chart 1:6 Credit gap for Sweden
Per cent of GDP



Note. The credit gap shows how much indebtedness in the economy deviates from the estimated long-run trend. The trend value is estimated using a Hodrick-Prescott filter.

Sources: Statistics Sweden and the Riksbank

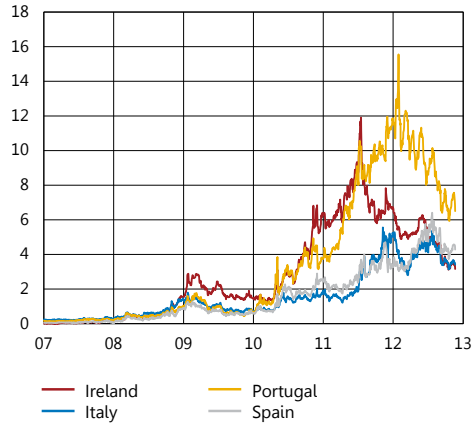
Chart 1:7 Counter cyclical capital buffers
Per cent



Note. The Riksbank's estimate based on the Basel III Accord. The graph refers to the four major banks at group level. Given the banks' different geographical exposures, this means that the banks' calculated buffers differ.

Source: The Riksbank.

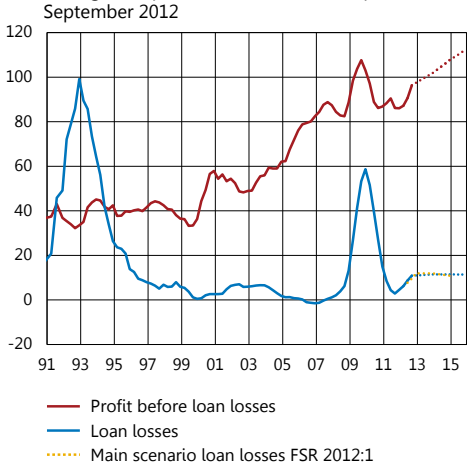
Chart 1:8 Spread versus German bunds for 10-year government bonds
Per cent



Source: Reuters EcoWin

[5] See *Market participants' views on risks and the functioning of the Swedish fixed-income and foreign exchange markets,* Sveriges Riksbank, 2012
[6] See the box The banks' liquidity risk in foreign currencies, *Financial Stability Report 2011:1*, Sveriges Riksbank.

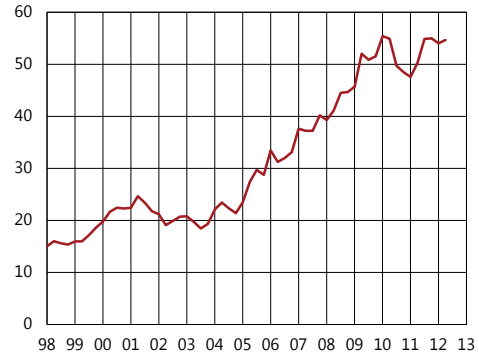
Chart 1:9 Profit before loan losses and loan losses in the four major banks
Rolling four quarters, SEK billion, fixed prices, September 2012



Note. The broken lines refer to the Riksbank's main scenario as in the current assessment and assessment from the previous Financial Stability Report.

Sources: Bank reports and the Riksbank

Chart 1:10 Swedish banks' wholesale funding in foreign currency
Per cent of GDP



Note. Refers to Swedish monetary financial institutions (MFIs), meaning that Swedish banks' foreign subsidiaries are not included. Foreign wholesale funding has been adjusted by the portion assumed to be swapped into Swedish kronor.

Sources: Statistics Sweden and the Riksbank

scenario. In such a scenario, the economic situation in Sweden may deteriorate significantly.[7] This may lead to an increase of loan losses related to small and medium-sized companies in particular.

A considerably weaker economic activity in Sweden, together with increased unemployment could also contribute to a fall in Swedish house prices. Although stress tests suggest that households can manage to pay interest on their loans even if unemployment should increase, they do not show the contagion effects that falling house prices could have on other sectors of the economy if households choose to change their saving patterns. As household indebtedness is high from both a historical perspective and in comparison with many other countries, falling house prices could lead households to save instead of consume as a way of compensating for the declining value of their homes. If other sectors of the economy do not have the capacity to increase their consumption or their investments to compensate for these households' lower consumption, the downturn may deepen. In this case, both unemployment and the banks' loan losses to companies may increase further. Households' total assets certainly exceed their debts by a broad margin, but these assets are primarily illiquid, which means that they are difficult to convert into cash if a household rapidly needs to reduce its debts.

Today, households in Sweden are more indebted than households in many of the countries that have experienced problems in recent years as a result of substantial falls in house prices (see Chart 1:11). The Swedish housing market certainly lacks several of the characteristics that contributed to the housing crises in countries such as Ireland or the United States, but it cannot be ruled out that the Swedish economy would be negatively impacted were house prices to fall for some reason. In addition, falling house prices could lead investors to choose to reduce their exposures to the Swedish banking sector. This may reduce demand for covered bonds, making other funding more expensive and thus impairing the Swedish banks' possibilities of obtaining wholesale funding.

STRESS TESTS SHOW THAT THE SWEDISH BANKS HAVE STRONG RESILIENCE TO MORE NEGATIVE DEVELOPMENTS...

The Riksbank has carried out a stress test where the banks' loan losses increase substantially compared with the main scenario. Such a scenario could occur if several of the risks described earlier come to pass. In the stress scenario for the period 2013–2015, the four major banks' total loan losses are expected to amount to SEK 255 billion. However, the banks' capital adequacy is decreasing to a lesser extent as the losses are largely covered by the banks' earnings. The stress tests are based on historical relationships between loan losses and macroeconomic development, which do not necessarily apply in a

[7] The market participants deem these indirect consequences to be greater and more serious that the direct consequences. *Market participants' views on risks and the functioning of the Swedish fixed-income and foreign exchange markets*, Sveriges Riksbank, 2012

stressed situation. It is therefore conceivable that the banks' losses in the stress scenario could be higher than estimated if the scenario were to become reality. A basic sensitivity analysis shows that the banks' credit losses could exceed 400 billion in the same macroeconomic scenario. This can be compared with the banks' credit losses between 2008 and 2009 that reached levels of almost SEK 70 billion.

The Riksbank has also conducted a stress test in which the Swedish banks are hit by unexpected cash outflows. The result of this shows that the Swedish banks have good resilience to short-term stress on the financial markets. However, this resilience declines in the long run, which is problematic given the banks' extensive use of wholesale funding in foreign currency.

...BUT IN THE LONG TERM, THE BANKS' RESILIENCE NEEDS TO BE STRENGTHENED

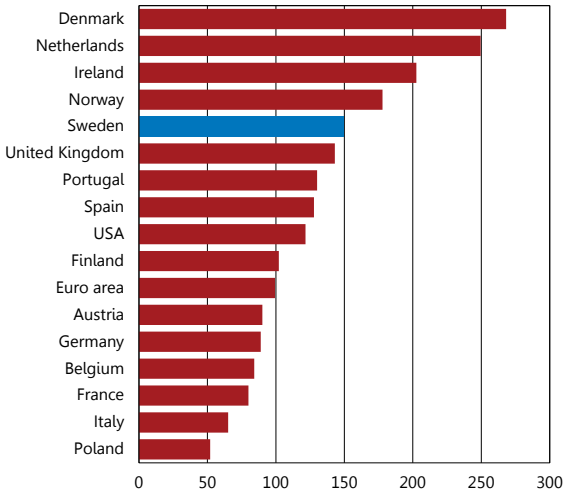
Even if the Swedish banks' resilience is good at present, there are several structural weaknesses in the Swedish banking system which could have a negative effect on financial stability in the long term. One such weakness is that the Swedish banking system is strongly integrated, which means that problems at one bank can easily spread to the other banks. The Swedish banking system is also large in relation to the Swedish economy, which is partly because the banks have such extensive international operations (see Chart 1:12). Other structural weaknesses in the banking system are the wide gap between the banks' assets and liabilities and the comprehensive use of wholesale funding in foreign currency by the banks. This makes the banks vulnerable to stress on the financial markets.

To reduce the vulnerabilities of the banking system, the banks must strengthen their capacity to manage any shocks that may arise over the long term. Above all, this means that the major Swedish banks must ensure that they have sufficient capital and reduce their structural liquidity risks. These measures are necessary for the financial system to be able to manage serious shocks, without support from the public sector.

The Riksbank's recommendations

In light of the current stability assessment and the need for structural changes in the Swedish banking system, the Riksbank makes a number of recommendations concerning the major banks'[8] capital and liquidity management. Moreover, the Riksbank considers that transparency of the Swedish financial system needs to be improved, leading to recommendations concerning the banks' public reporting. The Riksbank also issues a new recommendation concerning the benchmark rate Stibor (see Table 1:1). At the date of publication of this report, the major banks have fulfilled some of the

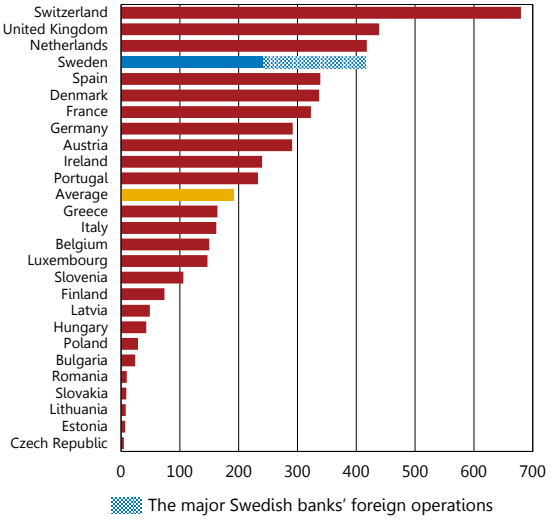
Chart 1:11 Household debt
December 2010, percentage of disposable income



Note. All data from Eurostat, except data on USA. When Eurostat calculates the debt ratio, disposable income is adjusted for changes in households' saving in pension schemes. This means that the debt ratio for Sweden in this chart is lower than that referred to in other parts of the report.

Sources: Eurostat, Federal Reserve and Bureau of Economic Analysis

Chart 1:12 The banks' assets in relation to GDP
December 2011, per cent



Note. In banking assets are included all of the assets of the banking groups, both foreign and domestic. The shadowed part of the blue bar shows the four major banks' assets abroad in relation to Sweden's GDP.

Sources: The ECB, the European Commission, the Swiss National Bank and the Riksbank

[8] The expression major Swedish banks refers to Handelsbanken, Nordea, SEB and Swedbank.

recommendations the Riksbank made in the previous Financial Stability Report (see Table 1:4). Consequently, these recommendations are not repeated here.

Table 1:1 The Riksbank's current recommendations

Current recommendations	Introduced
The major Swedish banks should ensure that they have a CET 1 capital ratio of at least 10 per cent on 1 January 2013 and at least 12 per cent on 1 January 2015.	FSR 2012:1
The major Swedish banks should continue to reduce their structural liquidity risks and approach the minimum level of 100 per cent in the Net Stable Funding Ratio (NSFR).	FSR 2011:2
The major Swedish banks should report comparable key ratios in the form of the subcomponents of the Liquidity Coverage Ratio (LCR).	FSR 2011:1
The major Swedish banks should improve the transparency of their public reporting as regards information on the degree of asset encumbrance.	NEW
The framework for the benchmark rate Stibor should be reformed through the establishment of clear responsibility, clear governance and control, better transparency, the possibility of verification and an obligation for the banks to execute transactions at their Stibor submissions if requested.	NEW

Note. FSR is an abbreviation for the Riksbank's Financial Stability Report.

THE RIKSBANK'S RECOMMENDATION ON THE MAJOR BANKS' CAPITAL

The banks need to have enough capital to be able to manage any future losses. More capital will reduce the probability of a bank suffering a crisis. In addition, this kind of resilience contributes towards the bank gaining the confidence of the public and the market that is decisive for the bank's access to funding.

Recommendation:

The major Swedish banks should ensure that they have a CET 1 capital ratio of at least 10 per cent on 1 January 2013 and at least 12 per cent on 1 January 2015.

The Riksbank recommends that the major Swedish banks ensure that they have higher CET 1 capital ratios than are required by the Basel III Accord.[9,10,11]

The Riksbank has previously proposed that the recommended levels of the CET 1 capital ratio for the Swedish banks should be introduced as a requirement via legislation.[12] The Ministry of Finance has also begun to prepare a regulatory framework that will subject

[9] The requirements of the Basel III Accord here refer to both the minimum requirements and the requirement for a capital conservation buffer.
[10] According to the Basel III Accord, banks may periodically be subjected to capital adequacy requirements in the form of countercyclical capital buffers. The primary aim of the countercyclical capital buffers is to strengthen the banks' resilience to future losses that may follow a period of excessive credit growth. The introduction of countercyclical buffers may also contribute towards reducing the impact of credit growth on economic activity.
[11] For a more detailed discussion of why the Riksbank considers that the major Swedish banks should be subjected to higher capital requirements, see *Financial Stability Report* 2011:2, Sveriges Riksbank.
[12] In November 2011, the Riksbank, Finansinspektionen and the Ministry of Finance agreed that new capital adequacy requirements should be introduced for the major Swedish banks. For further details on the proposal, see the relevant press releases: "New capital requirements for Swedish banks", Sveriges Riksbank (25 November 2011); "New capital requirements for Swedish banks", Finansinspektionen (25 November 2011); and "Proposal on higher capital adequacy requirements to reduce vulnerability of the Swedish economy", Ministry of Finance (25 November 2011).

the major banks to new capital adequacy requirements. At the same time, work is underway in the EU to introduce the Basel III Accord into its legislation. However, this work has been delayed, which is also affecting the work on introducing the requirements into Swedish legislation.

The major Swedish banks currently have high capital ratios in an international perspective and have begun to adapt their capital ratios to the Riksbank's recommendation. All four major banks report CET 1 capital ratios, according to the definition in the Basel III Accord, that are over 10 per cent. In addition, three of these are above 12 per cent (see Chart 1:13).

It is important that the major banks continue to ensure that they can meet the recommended capital ratios, regardless of the introduction of the requirements into legislation taking longer than expected. This is important, not least with reference to the unease within the financial markets potentially increasing as a result of the situation in the euro area. Moreover, the banks should take into account the fact that Finansinspektionen is investigating various possibilities for raising the capital requirement for Swedish mortgages (see the box Higher risk weights for Swedish mortgages promote financial stability).

THE RIKSBANK'S RECOMMENDATION REGARDING THE MAJOR BANKS' LIQUIDITY RISKS

The difference in maturity between the major Swedish banks' assets and liabilities is currently large (see Chart 1:14 and Chart 1:15). This makes the Swedish banks sensitive to disruptions on the financial markets. It is therefore important that the major banks increase their capacity in order to handle longer periods of stress and other more permanent changes that might affect their funding channels.

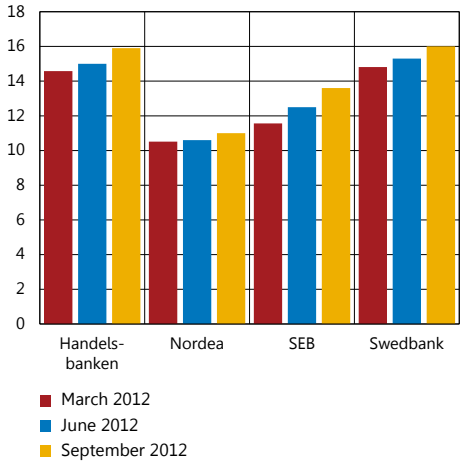
Recommendation:

The major Swedish banks should continue to reduce their structural liquidity risks and approach the minimum level of 100 per cent in the Net Stable Funding Ratio (NSFR).

Since the Riksbank introduced this recommendation in the Financial Stability Report a year ago, the major banks have, on average, reduced their structural liquidity risks slightly, reflected by their slightly higher average NSFR.[13] However, the banks' structural liquidity risk is still large and their average NSFR is below 100 per cent (see Chart 1:15). In addition, the banks' work in this area is proceeding slowly. If they continue to reduce their structural risks at the same rate as until now, it may be difficult for some of the banks

[13] The recommendation is based on the Basel Committee's definition, see Basel III: International framework for liquidity risk measurement, standards and monitoring, December 2010, Bank for International Settlements (BIS). As part of the work of observing and reducing the banks' structural liquidity risks, the Basel Committee has developed the NSFR, which measures the banks' structural liquidity risks by comparing their long-term funding to their illiquid assets in a stress scenario lasting for one year. At present some of the details of this measure are being reviewed and thus its final design is not entirely clear. However, the Basel Committee has proposed that the measures should be implemented in 2018 and the intention is for the banks to then have an NSFR of at least 100 per cent.

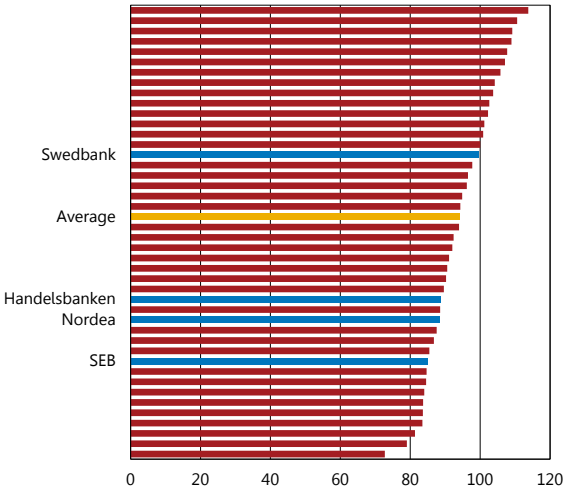
Chart 1:13 Common equity Tier 1 ratios in accordance with to Basel III
Per cent



Note. The common equity Tier 1 ratios are the Riksbank's own calculations based on the full implementation of the Basel III Accord.

Sources: Bank reports and the Riksbank

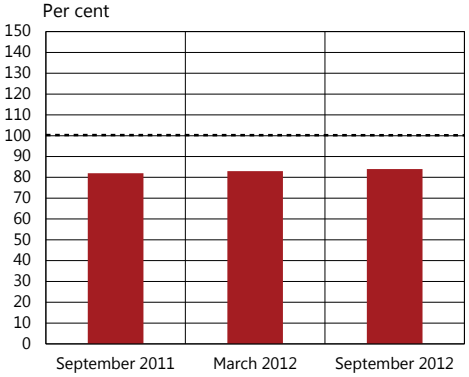
Chart 1:14 The Riksbank's structural liquidity measure
June 2012, stable funding in relation to illiquid assets, percentage



Note. The graph illustrates the results for the major Swedish banks and for 40 European banks.

Sources: Liquidatum and the Riksbank

Chart 1:15 The major Swedish banks' average NSFR
Per cent



Sources: Finansinspektionen and the Riksbank

to fulfil the Basel Committee's requirement for an NSFR of at least 100 per cent in 2018. The Riksbank therefore considers that the major Swedish banks should take advantage of their current relatively advantageous access to long-term wholesale funding to reduce their structural liquidity risks at a faster pace.

THE RIKSBANK'S RECOMMENDATIONS ON TRANSPARENCY IN THE MAJOR BANKS' PUBLIC LIQUIDITY REPORTING

Since the autumn of 2010, the Riksbank has recommended the major Swedish banks to improve the public information regarding their liquidity risks, as this information has been meagre, making the banks difficult to compare. Although the major Swedish banks' public reporting has improved in line with the Riksbank's recommendations, further work remains to be done (see Table 1:2).

Table 1:2 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 figures**	**Asset encumbrance (NEW)**
	Q3 2012 [Q1 2012]	Q3 2012 [Q1 2012]	Q3 2012 [Q1 2012]	Q3 2012 [Q1 2012]	Q3 2012 [Q1 2012]	Q3 2012 [Q1 2012]
Handelsbanken	● [●]	● [●]	● [●]	● [●]	● [●]	● [—]
Nordea	● [●]	● [●]	● [●]	● [●]	● [●]	● [—]
SEB	● [●]	● [●]	● [●]	● [●]	● [●]	● [—]
Swedbank	● [●]	● [●]	● [●]	● [●]	● [●]	● [—]

● Meets minimum level according to the Riksbank's recommendation

● Absent or only marginally reported

— Has not been evaluated previously

Recommendation:

The major Swedish banks should report comparable key ratios in the form of the subcomponents of the Liquidity Coverage Ratio (LCR).

The Riksbank considers that the banks should supplement the public reporting of the LCR with other comparable information, thus enabling external parties to calculate standardised and comparable key ratios.

In the last Financial Stability Report, the Riksbank pointed out that it would be preferable for the banks themselves to formulate comparable key ratios. However, the major banks have not agreed to do this. The Riksbank is thus now clarifying the recommendation by specifying that the banks should report comparable information on the most important subcomponents in the calculation of the LCR.[14] The banks should report aggregated information for all currencies in

[14] In its consultation response to Finansinspektionen, the Riksbank pointed out that the regulations governing the LCR should include specific requirements that the banks publish such information. See *Remissyttrande om förslag till Finansinspektionens föreskrifter om ett kvantitativt krav på likviditetstäckningsgrad och rapportering av likvida tillgångar och kassaflöden*, 23 August 2012.

accordance with Table 1:3.[15] Going forward, it may be appropriate to define other key ratios that can also shed light on the banks' structural liquidity risks.

Table 1:3 The Riksbank's recommendation on which subcomponents of the LCR should be reported by the major Swedish banks

Liquidity reserve	Cash outflows	Cash inflows
Liquid assets level 1	Customer deposits	Inflow from maturing lending to non-financial customers
Liquid assets level 2	Market borrowing	Other cash inflows
	Other cash outflows	

Note. The components are defined in line with Finansinspektionen's proposal on the basis for calculating the liquidity coverage ratio. See *Finansinspektionens föreskrifter om ett kvantitativt krav på likviditetstäckningsgrad och rapportering av likvida tillgångar och kassaflöden*. Liquid assets level 1 corresponds to Chapter 3, Article 6. Liquid assets level 2 correspond to Chapter 3, Article 7. Customer deposits correspond to Chapter 4, Articles 4–9. Market borrowing corresponds to Chapter 4, Articles 10–13. Other cash outflows correspond to Chapter 4, Articles 14–25. Lending to non-financial customers corresponds to Chapter 5, Article 4. Other cash inflows correspond to Chapter 5, Articles 6–12.

Recommendation:

The major Swedish banks should improve the transparency of their public reporting as regards information on the degree of asset encumbrance.

Increased transparency surrounding the banks' encumbered assets[16] may contribute towards giving investors and other stakeholders a better understanding of the risks associated with a bank's level of asset encumbrance. This may facilitate the pricing of this risk (see also the box Asset encumbrance and disclosure).

At present, several of the major Swedish banks only publish a small amount of information on their degree of asset encumbrance (see Table 1:2). However, Swedbank publishes detailed information on encumbered assets in the entire bank's operations. The bank's reporting for the third quarter corresponds to a reasonable minimum level for transparency on the degree of asset encumbrance.[17]

The Riksbank considers that the major banks should improve the transparency of their public reporting by reporting at least the following information on asset encumbrance:[18]

- Assets that are encumbered, specified by asset and liability type.[19]
- Assets that are available for encumbrance, specified by asset and liability type.
- Outstanding secured funding, specified by liability type.

[15] The components should be reported according to the definitions in Finansinspektionen's regulations, both before and after the application of factors and caps (liquid assets level 2 in relation to liquid assets level 1 and inflows in relation to outflows). The components should be reported in the equivalent amount at the end of the quarter.
[16] In Swedish asset encumbrance is "intecknade tillgångar".
[17] See Swedbank's *Facts Q3 2012*, 23 October 2012.
[18] See the minutes of the meeting of the Council for Cooperation on Macroprudential Policy held on 9 October 2012, http://www.riksbank.se/en/Press-and-published/Press/Notices/2012/Minutes-of-the-meeting-of-the-Council-for-Cooperation-on-Macroprudential-Policy1/.
[19] Including the separate reporting of, for example, the over-collateralisation in the cover pool linked to issued covered bonds.

- A quantitative assessment of how the asset encumbrance rate may increase if the bank's derivative positions should develop negatively.

THE RIKSBANK'S RECOMMENDATION ON THE STIBOR BENCHMARK RATE

The Stockholm Interbank Offered Rate (Stibor) is the collective name for a number of benchmark rates in Swedish kronor. These benchmark rates are used in the pricing of financial contracts in Swedish kronor for an outstanding amount equivalent to almost SEK 50,000 billion. Stibor is thus highly significant for Swedish interest rates, for the allocation of capital in society and for the functioning of the financial markets.

Stibor's influence on the pricing of financial contracts makes it important to both financial stability and the monetary policy transmission mechanism. The Riksbank has thus collected statistics and examined Stibor on various occasions. A more comprehensive review was initiated in the autumn of 2011. The conclusions of this review are published in the report *The Riksbank's review of Stibor*.[20] On the basis of the results of the empirical study included in this review, there are no signs of manipulation of the Stibor benchmark rate. However, the Riksbank has identified a number of shortcomings in the framework surrounding Stibor that need to be rectified to enhance confidence in this benchmark rate (see the article Stibor requires reform).

In the future, the Riksbank will monitor the pricing of and framework for Stibor more continuously. The supervision of Stibor will also be changed. For example, the European Commission has proposed the introduction of requirements for the supervision of benchmark rates to restrain conflicts of interest and promote internal organisation, which would mean that Finansinspektionen would be given explicit responsibility for the supervision of Stibor.

Recommendation:

The framework for the benchmark rate Stibor should be reformed through the establishment of clear responsibility, clear governance and control, better transparency, the possibility of verification and an obligation for the banks to execute transactions at their Stibor submissions if requested.

There should be one agent with the task of taking clear responsibility for how Stibor is determined and who can be held accountable for the functioning of Stibor. As no single agent has this responsibility at present, it will be more difficult to carry out the necessary reforms of the benchmark rate. The organisation in the best position to initiate reform work is the Swedish Bankers' Association, as all banks in the Stibor panel are represented in this organisation at the managing

[20] See *The Riksbank's review of Stibor*, 2012, Sveriges Riksbank.

director level.[21] In addition, the Swedish Bankers' Association has a broad range of members who would thereby be given the opportunity of influencing the design of the framework for Stibor. However, it is not self-evident which agents should have the overall responsibility for Stibor in the long term.

Clear rules for governance and control require there to be a unified framework with contracts for Stibor that the banks in the Stibor panel can follow. It is also important to establish a clear structure to follow up compliance with this framework and to deal with questions and possible complaints about Stibor. The banks should also prepare a code of conduct for their internal organisations and work with Stibor to reduce the risk of incentives arising that could lead to irregularities when Stibor is determined.

To create a transparent framework for Stibor, all contracts, regulations and agreements concerning Stibor should be public and easily accessible. The Riksbank and Finansinspektionen should be given full insight into all discussions and handling of matters concerning Stibor, as part of their supervision of Stibor.

To create appropriate incentives and make it possible to verify pricing when Stibor is determined, the banks in the Stibor panel should be obliged to borrow and lend at their offers on request. This will help create an incentive for the banks to ensure that their Stibor submissions are on market terms. To be better able to verify Stibor on the basis of market pricing, it would be best if the banks regularly issued and quoted bid rates for bank certificates in Swedish kronor for relevant maturities. A minimum requirement is, however, that the banks regularly quote interest rates for their own bank certificates in Swedish kronor.

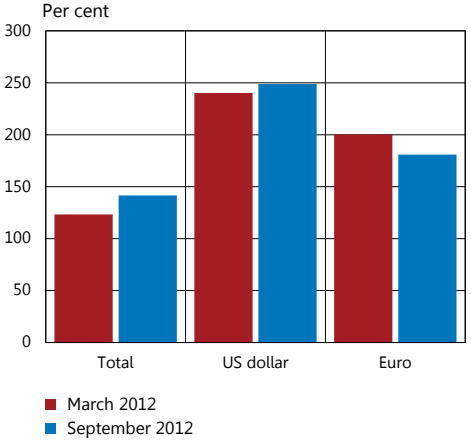
Additionally, the number of maturities for which Stibor is determined should be reduced to cover the most used maturities. The size of the trading units should also be designed to encourage the banks to borrow and lend at each other's submissions. Smaller trading units also increase the possibilities for more banks to participate in the submission process, which could strengthen confidence in Stibor.

The banks in the Stibor panel are presently working to review the framework for Stibor and rectify the problems that the Riksbank has identified in its review. The Riksbank is an observer in this work. The shortcomings for rectification are in line with those the Riksbank has identified and now it remains for the banks to take the decisions needed to address the problems. This is also a condition for maintaining confidence in Stibor. According to the Riksbank, the necessary decisions should be taken before the end of 2012 and should be implemented during the first quarter of 2013.

The Riksbank will in future oversee and analyse pricing and the framework for Stibor on a more regular basis. For instance, the Riksbank intends to carry out a new assessment of Stibor in 2014, to

[21] The five banks included in the Stibor panel are Danske Bank, Handelsbanken, Nordea, SEB and Swedbank.

Chart 1:16 The major banks' average LCR
Per cent



Sources: Finansinspektionen and the Riksbank

follow up the reform work and see how the framework for Stibor functions. The supervision of Stibor will also change. For instance, the European Commission has proposed that a requirement be introduced regarding the supervision of benchmark rates to suppress conflicts of interest and promote internal organisation, which would mean that Finansinspektionen gained explicit responsibility with regard to the supervision of Stibor.

There may also be reason to consider, in addition to the European Commission's work, whether benchmark rates of a particular scope should be subjected to commercial legislation. Such regulation in law need not necessarily concern the methods for setting the benchmark rate. Rather, it would entail establishing certain minimum requirements with regard to responsibility, insight and public supervision.

RECOMMENDATIONS FULFILLED BY THE MAJOR BANKS

All major banks have Liquidity Coverage Ratios (LCRs) amounting to at least 100 per cent, both in total for all currencies, and separately for euros and dollars (see Chart 1:16). In addition, Finansinspektionen will issue binding regulations for the LCR as of 1 January 2013. The fact that the banks are now complying with these recommendations is an important step towards strengthened resilience to short-term liquidity stress in the Swedish banking system. However, considerable liquidity risks still remain in the financial system. The banks' liquidity situation, including their LCRs, will therefore also continue to form a central part of the Riksbank's assessment of financial stability.

The banks also fulfil two of the recommendations that the Riksbank gave regarding the public reporting of liquidity risks (see Table 1:4). However, the Riksbank will continue to monitor the banks' public reporting to make sure that the recommendations continue to be fulfilled.

Table 1:4 Fulfilled recommendations

Fulfilled recommendations	Introduced
The major Swedish banks' Liquidity Coverage Ratios (LCR) should amount to at least 100 per cent.	FSR 2011:2
The major Swedish banks' Liquidity Coverage Ratios (LCR) should amount to at least 100 per cent in euro and US dollars respectively.	FSR 2011:2
The major Swedish banks should report their Liquidity Coverage Ratio (LCR) at least once a quarter beginning no later than the interim reports published after 1 July 2012.	FSR 2011:1
The major Swedish banks should improve the transparency of their public reporting by reporting maturity information per asset and liability type and per currency.	FSR 2011:1

Stibor requires reform

On the basis of the empirical evaluation begun by the Riksbank in autumn 2011, there are no signs of manipulation of the Stibor benchmark rate. However, the Riksbank has identified a number of shortcomings in the framework for the benchmark rate. These shortcomings relate to the fact that no individual agent has overall responsibility for Stibor. The structure for the governance and control of the processes is also unclear. In addition, transparency concerning the pricing of Stibor is inadequate and it is difficult to verify how Stibor is determined, particularly for longer maturities.

Stibor (Stockholm Interbank Offered Rate) is defined as the average interest rate that the banks in the so-called Stibor panel state that they can offer one another for unsecured loans in Swedish kronor.[22] Stibor is determined daily for loans at eight different maturities.

Stibor has been used as a benchmark rate in Sweden for over 30 years. In general it has served its purpose. However, the framework for Stibor has a number of shortcomings that need to be dealt with in order to enhance that confidence in this benchmark rate is maintained. In brief, these relate to the following areas:

- *Lack of responsibility*. The five banks in the Stibor panel are currently jointly responsible for the contract that regulates how the benchmark rate is determined.[23] There is thus no individual agent who is responsible for the contract and who can be held accountable.
- *Lack of governance and control*. There is no clear structure that can ensure that confidence in Stibor is maintained. For example, there is no organisation that monitors whether the banks comply with the Stibor contract or that can deal with questions or complaints about Stibor from external parties.
- *Lack of transparency*. The Stibor contract is not public. Information on what Stibor is and how it is determined is not easily available. This makes it difficult for external parties to assess and understand the benchmark rate.
- *Lack of possibility to verify Stibor*. Swedish banks largely use loans in foreign currencies for their short-term funding and there is no liquid Swedish market that can form the basis for the pricing of Stibor. The banks also very rarely use unsecured interbank loans in Swedish kronor. There is thus no verifiable starting point for Stibor.
- *Inadequate incentive structure when Stibor is determined*. At present, the banks that determine Stibor do not have sufficiently strong incentives to specify correct Stibor rates in that they are not bound by their submissions. Furthermore, the Swedish financial market is relatively small with few banks in the Stibor panel, which means that there is a risk that the banks collaborate when determining Stibor.

[22] See the *Riksbank's review of Stibor*, Sveriges Riksbank, 2012.
[23] Danske Bank, Handelsbanken, Nordea, SEB and Swedbank.

Differences between different benchmark rates

An extensive review of benchmark rates is now underway in several countries as a result of the discovery of a number of shortcomings, primarily in connection with the financial crisis of 2007–2009. Since 2009, the supervisory authorities in, for example, the United Kingdom and Japan, as well as the EU, have examined the Libor (London Interbank Offered Rate), Euribor (European Interbank Offered Rate) and Tibor (Tokyo Interbank Offered rate) benchmark rates. To date, it is only the review of Libor that has resulted in a number of proposed measures.[24] The on-going review of benchmark rates around the world may lead to extensive changes in the way these rates are organised. The Swedish benchmark rate may then need to be adapted to these changes. However, it is important to take into account that there are differences between Stibor and the other benchmark rates.

One important difference between the benchmark rates concerns how they are defined. When Stibor is determined, a bank should take the interest rate it believes it can offer to the other banks in the Stibor panel as its starting point. When the British benchmark rate Libor is determined, the bank should instead take the interest rate it believes it may be offered by the other banks as its starting point. When the European benchmark rate Euribor and the Danish benchmark rate Cibor (Copenhagen Interbank Offered Rate) are determined, the bank should assume that the counterparty is a financially strong bank with a high credit rating. In the case of Euribor, the bank should also not take its own situation as the starting point but assess the lending rates of two typical banks with a high credit rating, which means that the rate set is purely hypothetical.

Another difference concerns who is responsible for the benchmark rates. Stibor differs from the other rates in this respect in that it is regulated by a contract between the banks in the Stibor panel. In contrast responsibility for the other benchmark rates is managed and regulated by a bankers' association in the country or currency area concerned. The situation regarding responsibility for the other benchmark rates is thus clearer than in the case of Stibor.[25]

[24] See *The Wheatley Review of Libor*, Final report, HM Treasury, 2012.
[25] Among other measures, it has been proposed that responsibility for Libor be transferred from the British Bankers' Association to a new, independent actor to be appointed through a tender procedure.

2. Financial markets

Concern about the debt crisis in the euro area continues to mark developments on the financial markets. This is primarily because several countries in the euro area still have underlying structural weaknesses, such as high public debts, problems in the banking sector and weak competitiveness. However, the authorities and politicians in the euro area have taken initiatives that give the countries the basis on which to implement necessary measures, which has calmed stakeholders on the financial markets somewhat. The Swedish banks have good access to funding on the financial markets despite the situation in the euro area.

Swedish banks and firms are active on global financial markets to a great degree and are dependent on them for their funding. Developments on the financial markets are therefore important to the assessment of risks in the Swedish financial system.

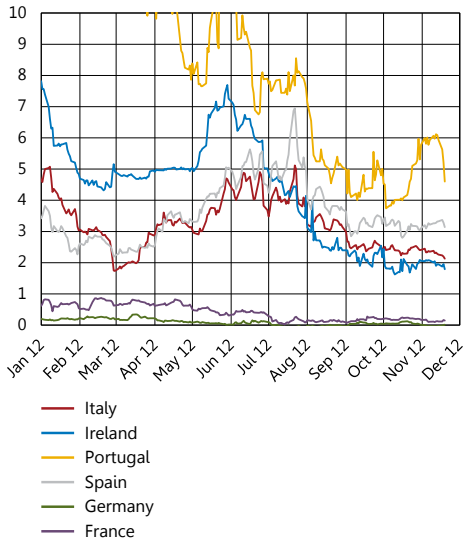
Most recent developments on the financial markets

THE UNCERTAINTY IN THE EURO AREA REMAINS

The work on implementing fiscal policy and structural reforms in the euro area continues. However, a lot of work remains to be done to stabilise the situation. Banks need to be recapitalised and the debt-ridden countries in the euro area need to improve their public finances and strengthen their competitiveness.[26] Several initiatives that facilitate this work have been presented by the politicians and authorities, and this has reduced the most immediate concern on the part of investors. This is reflected, for example, in the fall in government bond yields for the debt-ridden countries (see Chart 2:1). The politicians and authorities have thus been given a respite in which to tackle the underlying structural weaknesses and establish the preconditions for long-term growth.[27] However, weak macroeconomic development in the debt-ridden countries is undermining their possibilities to implement the necessary changes.

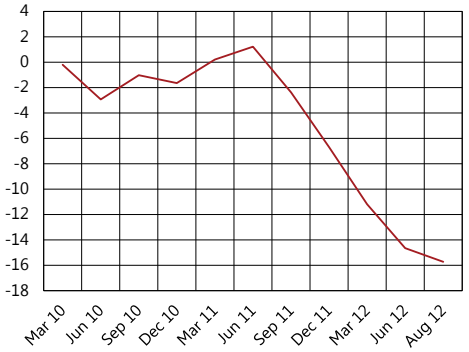
The Greek government needs more time to handle the nation's public finance problems. The country is therefore negotiating with the EU and the International Monetary Fund (IMF) on the requirements made in order for Greece to continue receiving financial support. A coalition government was formed at the end of June, which allayed the most acute fears that Greece would exit the Economic and Monetary Union (EMU). In November, the Greek parliament reached agreement on additional austerity measures, which is a condition for the country receiving further support loans from the EU and the IMF. However, there is still great uncertainty about Greece's capacity to deal with the underlying structural weaknesses.

Chart 2:1 Yields on two-year government bonds
Per cent



Source: Reuters EcoWin

Chart 2:2 Private capital flows for debt-ridden countries in the euro area
Per cent of GDP

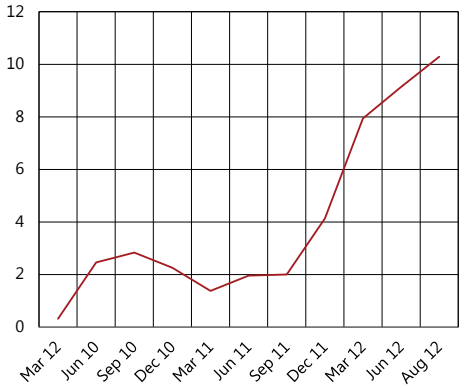


Note. The flow of portfolio investments and other investments, excluding central banks' investments and lending. The chart shows the accumulated capital flows since January 2010 for Greece, Ireland, Italy, Portugal and Spain. Data for Ireland until June 2012.

Sources: Reuters EcoWin, Bloomberg, national central banks and the Riksbank

[26] See the box EMU and the debt crisis in the *Monetary Policy Report*, February 2012, Sveriges Riksbank.
[27] This is also confirmed by the respondents to the *Market participants' views on risks and the functioning of the Swedish fixed-income and foreign exchange markets*, Sveriges Riksbank, 2012.

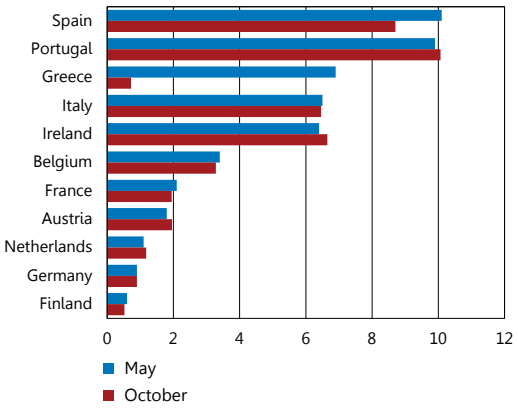
Chart 2:3 Private capital flows for core countries in the euro area
Per cent of GDP



Note. The flow of portfolio investments and other investments, excluding central banks' investments and lending. The chart shows the accumulated capital flows since January 2010 for Germany, the Netherlands, France and Belgium. Data for the Netherlands until June 2012.

Sources: Reuters EcoWin, Bloomberg, national central banks and the Riksbank

Chart 2:4 Banks' borrowing from the ECB
Percentage of total bank assets



Note. Lending via the ECB's market operations. Greek banks also receive emergency loans from the Greek central bank. In May, almost all of the Greek banks' emergency loans came from the Greek central bank.

Sources: Bloomberg, national central banks and the Riksbank

During the autumn, the markets have primarily focused on Spain's economic problems. This is due to the country's weak banking system, the debt problems in the autonomous regions and the generally gloomy economic situation with weak growth and high unemployment.[28] The euro countries have therefore offered Spain loans to support the recapitalisation of the country's banks.[29] The offer reduced investors' concern somewhat, which is reflected, for example, in lower CDS premiums for the banks. However, the central government has not managed to attain the planned budget cuts in the autonomous regions. Several of these regions have therefore sought financial support from the central government during the autumn, which exerts further pressure on the Spanish sovereign debt and reduces the market's confidence that the country will be able to handle the situation itself. Spain is therefore expected to apply for support from the crisis management funds, the EFSF or the ESM (see Chart 2:2). Such support would give Spain access to the ECB's new programme for the purchase of government bonds on the secondary market.

Private investors have continued to move capital from banks in debt-ridden countries (see Chart 2:2). At the same time, capital is flowing to the banks in the euro area's core countries (see Chart 2:3). For example, the banks in Germany and France have reduced their exposures to other countries in the euro area. Spain is one of the countries where capital has been moved from the country's banks. These outflows have instead been replaced by inflows from the public sector. Above all, the Spanish banks are still dependent on funding from the ECB (see Chart 2:4).

POORER MACROECONOMIC DEVELOPMENTS

Growth prospects in the euro area have deteriorated. It is above all in southern Europe that development is weak. Economic development in Germany has been more resilient to date, but even in Germany there are now signs that growth is weakening. Poorer economic prospects were also one reason why Moody's cut France's credit rating in mid-November.[30]

Deleveraging in the European banking sector is further undermining growth prospects in, particularly, the euro countries with sovereign debt problems. Many banks in the euro area are now imposing stricter requirements for lending to households and companies, which has led to reduced lending (see Chart 2:5).[31] The reasons for this are the more difficult funding

[28] The recession and an inability to manage high borrowing costs were among the reasons leading both Standard & Poor's and Moody's to choose to downgrade Spain's credit rating to a level above what is known as junk status at the end of summer and start of autumn.
[29] According to stress tests carried out by the consultants Oliver Wyman and published in September 2012, the Spanish banks' capital requirements amount to EUR 54 billion.
[30] Moody's cut France's credit rating one notch to Aa1, 19 November 2012.
[31] See *The Euro Area Bank Lending Survey for October 2012*, ECB.

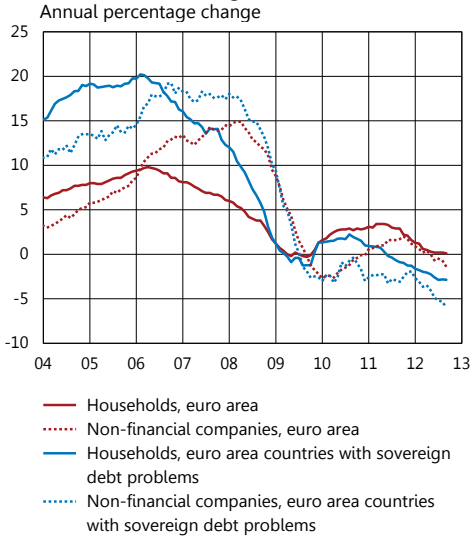
situation, the increase in expected loan losses and the decrease in expected profits against the background of the weaker development of the real economy. In its latest stability report, the IMF warns that these factors have created a greater need among the banks to reduce their assets, such as lending, compared to the situation in the spring.[32] In addition, the banks in the euro area are in general poorly-capitalised ahead of the approaching introduction of the Basel III regulations and will probably reduce their assets to a greater extent in the period ahead as a stage in the deleveraging process.[33]

On the other hand, the economic recovery is continuing in the United States, although it is uncertain what form fiscal policy will take in the period ahead. The politicians are facing a critical decision in that they need to decide to what extent to retain extensive fiscal-policy stimulation measures, such as reduced taxes and high public expenditures, to prevent the US economy from slowing down.

MEASURES SUBDUING UNEASE

The initiatives that have been taken by the politicians and authorities have reduced the risk of the crisis in the euro area spreading. The unease about Spain's weak banking system that prevailed on the markets during the spring was, for example, reduced in June when the euro countries offered loans to Spain in order to recapitalise the country's banks. The euro countries have also decided that the permanent crisis-management fund, the ESM, which began operating in October, should be able to lend directly to banks (see Table 2:1).[34] However, this will only be possible providing that the euro countries have a joint banking-supervision system in place (see also the box A European banking union).[35]

Chart 2:5 Bank lending
Annual percentage change



Note. The chart refers to lending from monetary financial institutions. The countries with sovereign debt problems are Greece, Ireland, Italy, Portugal and Spain.

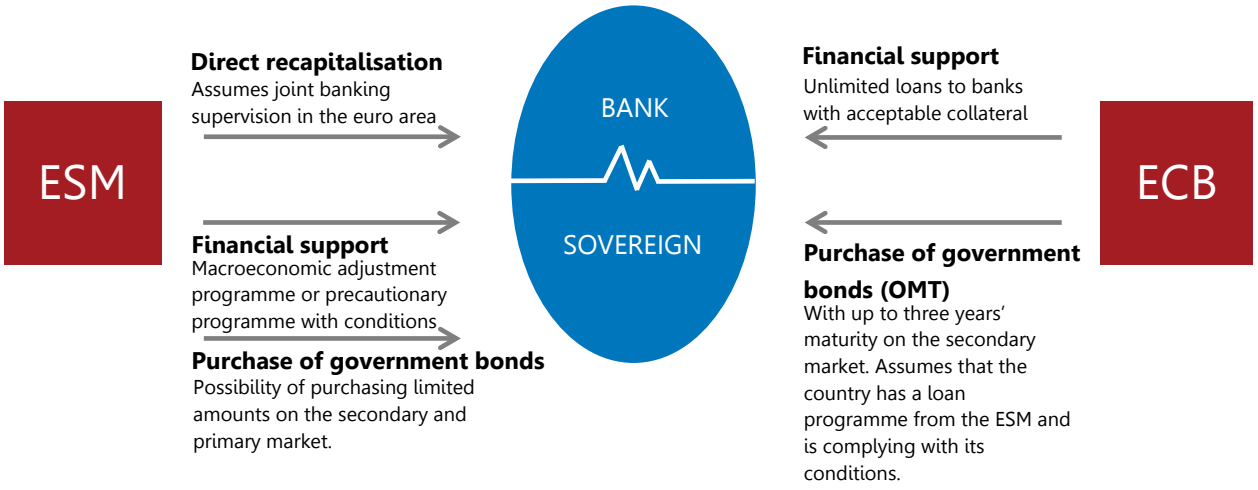
Source: ECB

[32] See the *Global Financial Stability Report October 2012*, IMF.
[33] For more information on deleverage, see Deleveraging in the European banking sector – background and potential consequences", *Financial Stability Report 2012:1*, Sveriges Riksbank.
[34] It remains unclear whether loans to Spain will be made directly to the country's banks. In a joint statement, the finance ministers of Germany, the Netherlands and Finland say that recapitalisation directly to the banks cannot take place retroactively. See *Joint Statement of the Ministers of Finance of Germany, the Netherlands and Finland*, 25 September 2012.
[35] The ESM became operative on 8 October 2012. The lending capacity will increase successively until 2014, at which point it will amount to EUR 500 billion. See http://www.esm.europa.eu/index.htm.

Another important initiative is the ECB's commitment to purchase an unlimited amount of government bonds on the secondary market (see Table 2:1). The aim is to prevent high yields on the debt-ridden countries' bonds weakening the monetary-policy transmission mechanism and the single monetary policy.[36] The decision was taken in September and the ECB intends to purchase bonds with a maturity of up to three years. However, such purchases can only be made if the country in question has a programme with conditions for economic policy within the framework of the European crisis-management funds EFSF and ESM.[37]

The information that the ECB is prepared to purchase government bonds has led to a fall in the yields for such bonds. This applies in particular to bonds at shorter maturities issued by debt-ridden countries (see Table 2:1).[38] The initiative has thus reduced the investors' concern that the yields for government bonds from the large debt-ridden countries Spain and Italy will become too high. It has also reduced the uncertainty about whether the money from the European crisis-management funds would be enough to provide relief loans to large countries that have major refunding needs in the period ahead.

Table 2:1 European support measures to countries and banks



Note. The temporary crisis-management fund EFSF will be phased-out in July 2013 The permanent crisis-management fund ESM, which replaces the EFSF, began operating on 8 October 2012 and now has the capacity to lend to countries and banks. The ESM's lending capacity will be gradually increased up to the end of 2014 as the member countries pay in capital. The ESM's lending capacity will then amount to EUR 500 billion. The ECB lends to banks at maturities of up to 13 months. The aim of the ECB's programme for the support purchase of bonds, Outright Monetary Transactions (OMT), is to protect the monetary-policy transmission mechanism and the single monetary policy in the euro countries.

Sources: EFSF, ESM and the Riksbank

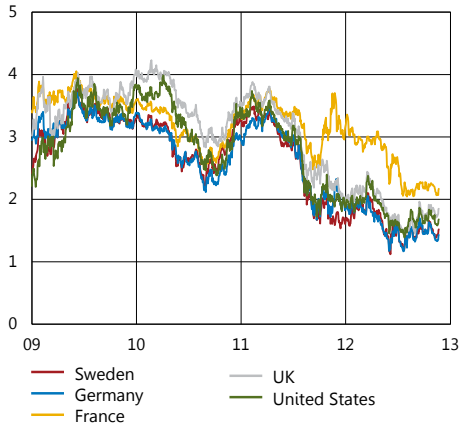
[36] The purchase is taking place through the new programme for Outright Monetary Transactions (OMT). See the press release, 6 September 2012, ECB, http://www.ecb.int/press/pr/date/2012/html/pr120906_1.en.html.
[37] Receiving such assistance requires a macroeconomic adjustment programme or what is known as a proactive programme that gives the country the possibility of borrowing from the EFSF or ESM when necessary. See FAQ, http://www.esm.europa.eu/. Support loans from the EFSF will be given until the ESM has enough capacity in the form of capital. The EFSF cannot lend directly to banks.
[38] See also the article New measures to manage the crisis in the euro area, *Monetary Policy Report October,* 2012, Sveriges Riksbank.

Several central banks have implemented measures to stimulate the economy. In the United States, the Federal Reserve has extended the programme that aims to push down long-term interest rates by selling government bonds at short maturities while purchasing government bonds at long maturities. The Federal Reserve has also begun to purchase mortgage bonds with the aim of stimulating loans to households. The Bank of England and the Bank of Japan have also extended their programmes for the purchase of securities. In July, the ECB also cut its policy rate to 0.75 per cent.[39] All in all, these measures have contributed to the on-going low level of interest rates and to expansionary monetary policies in several countries, which is reflected in the low long-term government rates (see Chart 2:6).

The low interest rates have led investors to seek assets that provide a higher return to a greater extent. For example, share prices have increased in large parts of the world despite weak growth prospects.[40] The investors' interest in high-yield corporate bonds has also increased. This is reflected in the falling yields for these bonds. Flows of volatile capital arise when investors seek higher-risk assets. Ultimately, this could create high volatility on important markets if capital flows suddenly change direction.

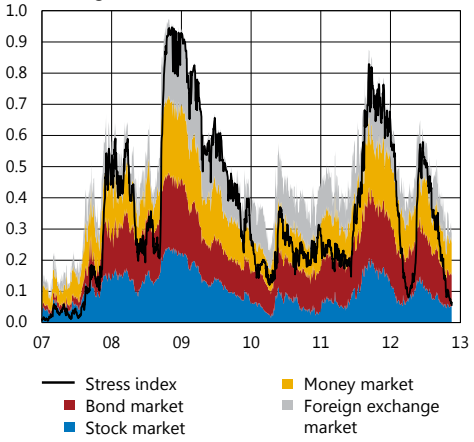
The Swedish markets are also being affected by the low level of interest rates. This is reflected, for example, in the Riksbank's stress index in which all of the sub-markets have fallen since the spring (see Chart 2:7). Swedish government bond yields remain at very low levels (see Chart 2:6). This is because Sweden is regarded as an attractive market for investors who are looking for safe investments. As an increasing number of countries have had their credit ratings reduced, the number of investment alternatives with the highest credit rating, AAA, has decreased.[41] Sweden holds the highest credit rating and has so far withstood the crisis in public finances in the euro area. As a result, the proportion of foreign holders of Swedish government securities has increased in recent years.[42] The inflow of capital has contributed to an increase in the value of the Swedish krona. In line with developments in other parts of the world, the Swedish stock market has risen and volatility has decreased since the spring.

Chart 2:6 Yields on ten-year government bonds
Per cent



Source: Reuters EcoWin

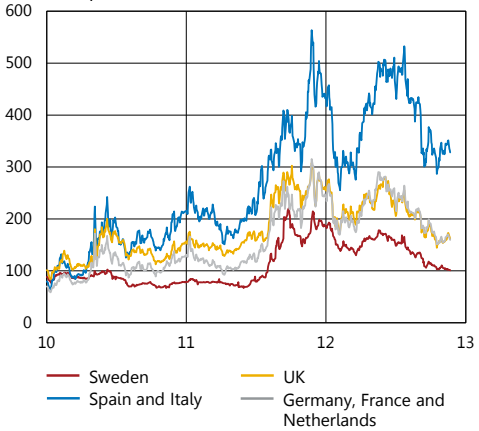
Chart 2:7 Swedish stress index
Ranking



Note. The stress index is a correlation-weighted mean value of the stress levels on four sub-markets. The stress levels on the four sub-markets are in turn arithmetical mean values of the stress levels of three indicators specific to the respective sub-markets. The stress level at a certain point in time takes a value between zero and one, where one represents the historically highest stress level and zero represents the historically lowest stress level.

Sources: Reuters EcoWin, Bloomberg and the Riksbank

Chart 2:8 Five-year CDS premiums for banks
Basis points

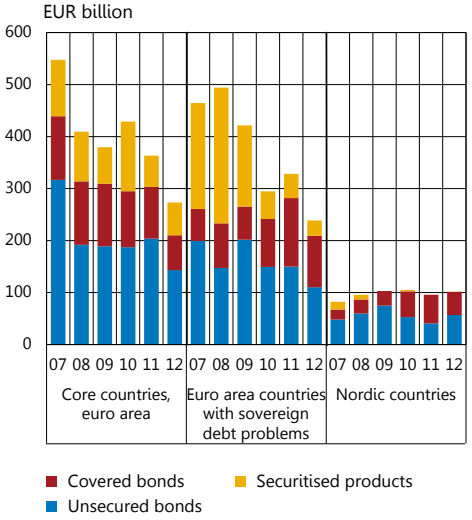


Note. Refers to a selection of banks in the respective countries.

Sources: Bloomberg and the Riksbank

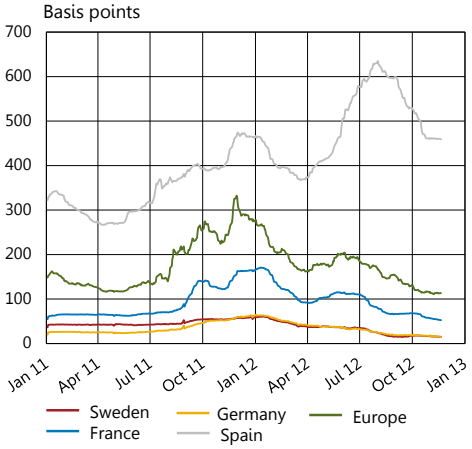
[39] The ECB cut the refi rate by 0.25 per cent to 0.75 per cent on 5 July 2012.
[40] See the *Monetary Policy Report*, October 2012, Sveriges Riksbank.
[41] Twelve countries around the world currently hold AAA ratings from the three largest credit rating agencies (Fitch Ratings, Moody's and Standard & Poor's): Australia, Canada, Denmark, Finland, Germany, Luxembourg, the Netherlands, Norway, Singapore, Sweden, Switzerland and the United Kingdom.
[42] Since the start of the financial crisis in 2008, the proportion of foreign holders of Swedish government securities has increased by about 10 percentage points. Based on data from Statistics Sweden's financial accounts for the second quarter of 2012.

Chart 2:9 Banks' issue volumes
EUR billion



Note. Refers to bonds. The countries with sovereign debt problems includes Greece, Ireland, Portugal, Spain and Italy.
Sources: Dealogic and the Riksbank

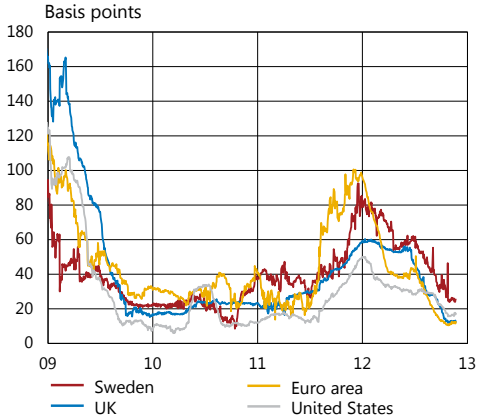
Chart 2:10 Yields for bank bonds
Basis points



Note. Difference between the yields for the respective bond and an interest rate swap with the same maturity. The green line represents senior unsecured bonds, the other lines are covered bonds.

Source: Barclays Research

Chart 2:11 The risk premium on the interbank market
Basis points



Note. The risk premium for Sweden is calculated as the difference between the three-month Stibor and the overnight index swap rate (STINA).

Sources: Bloomberg and the Riksbank

Markets that are important to Swedish banks' funding

MARKETS FOR BANKS' LONG-TERM FUNDING

Expectations regarding support measures in the euro area have eased market funding for some banks. This primarily applies to financially-strong banks. This can be noted in that funding costs relating to unsecured and covered bonds in Swedish kronor, euros and US dollars have fallen since June. However, access to market funding differs between banks in different countries.

Many banks with a high credit rating in countries that do not have problems with their public finances largely fund their operations through unsecured bonds. CDS premiums provide an estimate of how much it costs to fund operations through such bonds. These premiums have generally fallen for banks in the euro area and in Sweden (see Chart 2:8). However, issue volumes for the banks in the euro area have been relatively low compared to previous years (see Chart 2:9). This may be because many banks have covered a large part of their funding needs through the ECB's three-year loans, which were offered at a favourable interest rate in December 2011 and February 2012. It may also be because several banks have chosen to reduce their operations and thus do not need as much funding. Yet another reason may be that large customers have moved borrowing from debt-ridden countries to the euro area's core countries. This has probably reduced the need for banks in the euro area's core countries to borrow on the capital markets.

The costs for issuing bonds are much higher for banks in the euro area's countries with sovereign debt problems (see Chart 2:8 and Chart 2:10). Many of these banks are therefore still dependent on loans from the ECB and Spanish banks are now the largest borrowers from the ECB. It is in particular issues of unsecured bonds that have decreased (see Chart 2:9).

Market funding for the Swedish banks is working well. The costs for funding operations through covered bonds in both Swedish kronor and euros have fallen and the banks have continually been able to issue such bonds (see Chart 2:10). The Swedish banks' costs for borrowing through unsecured bonds have also fallen, as illustrated by falling CDS premiums. These issues have primarily been conducted in euros and dollars. During the period, the banks have issued a higher percentage of bonds in US dollars than in previous years.

MARKETS OF IMPORTANCE FOR LIQUIDITY MANAGEMENT

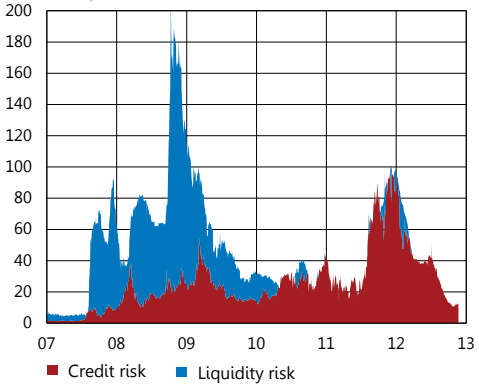
Measures by central banks have led to a fall in risk premiums on the interbank markets (see Chart 2:11). The lower risks premiums in the euro area are largely due to the fact that the ECB's measures have reduced concern about the crisis spreading to more countries and banks. The credit risk premium on the interbank market has thus fallen (see Chart 2:12). Since the ECB added large amounts of liquidity by offering its three-year loans, the liquidity risk premium on the interbank market in the euro area has almost disappeared.

The banks in the euro area's countries with sovereign debt problems continue to have limited access to short-term market funding. These banks have therefore been forced to cover their liquidity needs through short-term loans from the ECB. As it has become increasingly difficult to pledge acceptable collateral for such loans, it has also become more difficult for certain banks to continue to fund their operations in this way. The banks have instead had to turn to their respective national central banks to get targeted liquidity assistance with less strict collateral requirements.[43]

For most banks, it has become less expensive to get short-term funding in euro and then to convert this funding into US dollars. This has been particularly important for the European banks that fund their dollar assets through borrowing in euros (see Chart 2:13). Access to direct funding in dollars, for example from US money-market funds, has also improved somewhat recently, which has facilitated the European banks' short-term funding in dollars.

The central bank measures have also led to a decrease in the risk premiums on the Swedish interbank market (see Chart 2:14). This is because the Swedish interbank market is largely affected by developments on the interbank markets in the United States and the euro area as the Swedish banks fund their operations on these markets. However, the risk premium in Sweden is still higher than the risk premiums in the United States, the euro area and the United Kingdom. This can be explained by the fact that the Riksbank has ended the support measures that were introduced in Sweden earlier, because there is no longer a need for them. The risk premium in Sweden is thus made up both credit- and liquidity-risk premiums. However, both of these components of the risk premium have fallen in Sweden in recent months.

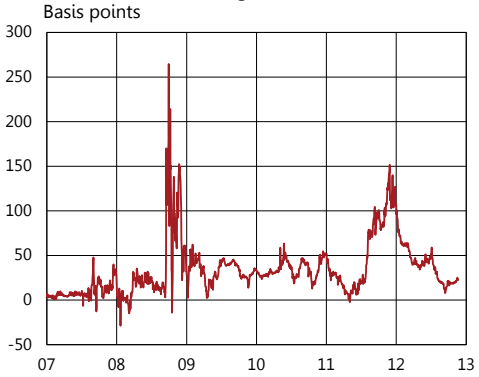
Chart 2:12 Indicative breakdown of the risk premium in the euro area
Basis points



Note. The model derives a credit-risk related premium from CDS prices. The remaining risk premium is equivalent to the liquidity-risk premium. See *Economic Commentary no. 14*, www.riksbank.se, 2009.

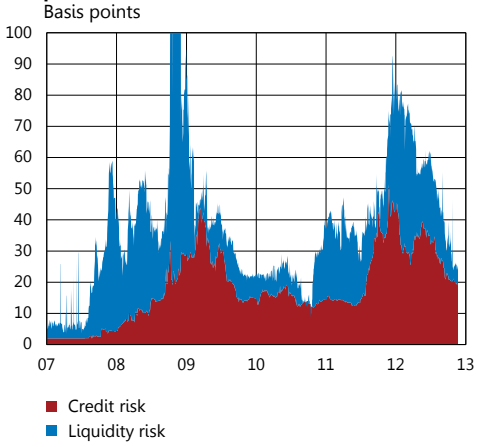
Sources: Bloomberg and the Riksbank

Chart 2:13 Cost of borrowing in euros for three months and converting the loan to US dollars
Basis points



Sources: Bloomberg and the Riksbank

Chart 2:14 Indicative breakdown of the risk premium in Sweden
Basis points

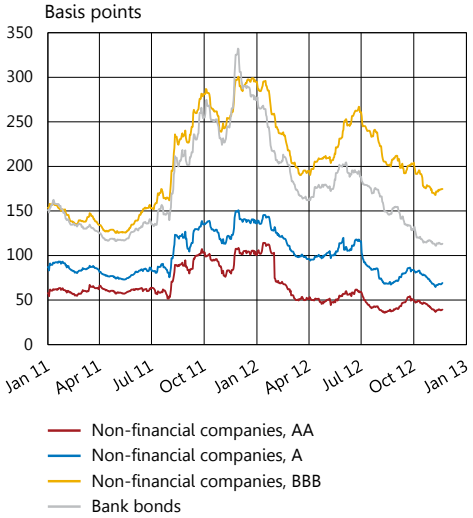


Note. The model derives a credit-risk related premium from CDS prices. The remaining risk premium is equivalent to the liquidity-risk premium. See *Economic Commentary no. 14*, www.riksbank.se, 2009.

Sources: Bloomberg and the Riksbank

[43] So-called Emergency Liquidity Assistance (ELA).

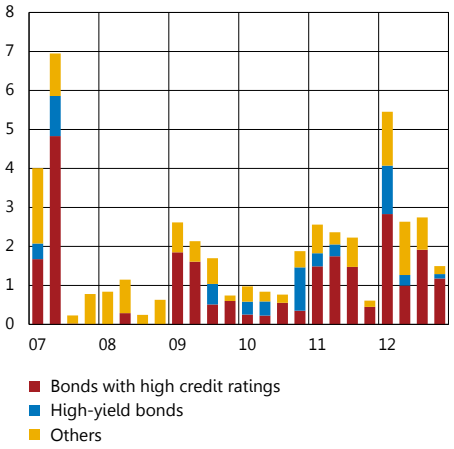
Chart 2:15 Yields for European corporate bonds and bank bonds
Basis points



Note. The Chart shows the difference between the yields for the respective bond with a certain credit rating and an interest rate swap with the same maturity.

Source: Barclays Research

Chart 2:16 Swedish companies' issue volumes irrespective of currency
EUR billion



Sources: Dealogic and the Riksbank

IMPORTANT MARKETS FOR SWEDISH BANKS' CREDIT SUPPLY

Yields for corporate bonds have fallen in Europe (see Chart 2:15). This indicates that investors are seeking investments that provide a higher return. It is particularly the interest in high-yield bonds, that is bonds that also carry a higher risk, that has increased. This is partly due to the generally low level of interest rates in several countries and partly because the investors are counting on the fact that the initiatives taken by the politicians and central banks have reduced the investors' concern of the crisis in the euro area worsening. European companies have therefore taken this chance to obtain funding on the market. A similar tendency has been noted for bonds issued in US dollars, where particularly the yields for high-yield bonds have fallen.

Swedish companies also have good access to the Swedish bond market. This particularly applies to the large companies that have been able to issue bonds at lower costs. This is probably due to the low level of interest rates in Sweden. So far this year, Swedish companies have issued almost as much as during 2007 (see Chart 2:16). At the same time, however, the Swedish companies feel that it has become somewhat more difficult to get bank loans.[44] Consequently, the large companies are turning to the bond market for funding. However, small and medium-sized companies are mainly dependent on bank loans.[45]

[44] See *Riksbank's company interviews June 2012*, Sveriges Riksbank.
[45] Markets for Swedish non-financial corporations' loan-based financing, Gudrun Gunnarsdottir and Sofia Lindh, *Sveriges Riksbank Economic Review*, Sveriges Riksbank.

A European banking union

In recent months, the EU has discussed the need to move towards a so-called banking union, comprising common systems for banking supervision, deposit guarantees and crisis management. The European Commission recently proposed what is considered to be a first step towards such a banking union - a system of common banking supervision in the euro area.

The Commission's proposal is comprehensive and would constitute a substantial change of EU banking supervision.[46, 47] The proposal gives the ECB responsibility for supervising all banks in the euro area. The idea is to phase in the supervisory mandate. As of 1 July 2013, the ECB would take over supervision of systemically-important banks from the national supervisory authorities and, from 1 January 2014, exercise supervision over all banks in the euro area. However, from 1 January 2013, the ECB can choose to supervise specific banks. The proposal explicitly mentions banks that have received or applied for public support.

The proposal does not mean that national supervisory authorities would become superfluous. Under the proposal, they would continue to conduct supervisory tasks, but under the ECB's overall responsibility and decision-making powers. Within the ECB, the idea is for a special supervisory board to be created to plan and execute supervisory work. However, just as for monetary policy, the final responsibility would rest with the Governing Council of the ECB. Under the proposal, non-euro countries would be given the opportunity of joining the common supervision, but with very limited influence.

The European Commission's timetable is very ambitious and aims to reach a decision before the end of the year. One reason for the hurried timetable is that, in June, the euro area's heads of state and heads of government resolved that functioning joint banking supervision for the euro area's banks was a precondition for broadening the scope of the European Stability Mechanism (ESM) to include the direct capitalisation of banks. This would provide an alternative to granting loans to the relevant member states, which leads to a corresponding increase of public debt.

The idea of switching to joint supervision of Europe's banks is neither new nor unreasonable. As banking operations become more international, the weaknesses of purely national supervision are becoming more apparent. National authorities have neither enough incentive nor the possibility of considering the repercussions of the actions of a major multinational bank in other countries. The Riksbank thus noted as early as 2007[48] that it may be appropriate to subject systemically-important banks to joint supervision and presented its thoughts on how this could be achieved.

[46] See also the article New measures to manage the crisis in the euro area, *Monetary Policy Report October 2012*, Sveriges Riksbank.
[47] Another initiative is the work of what is known as the Liikanen group, see *High-level Expert Group on reforming the structure of the EU banking sector*, October 2012. For the Riksbank's consultation response, see http://www.riksbank.se/en/Press-and-published/consultations/consultation-responses-by-the-Riksbank.
[48] BIS, Regulatory challenges of cross-border banking – possible ways forward. Speech by Stefan Ingves, 23 July 2007. http://www.bis.org/review/r070724a.pdf.

For smaller banks, the arguments for joint supervision are not as strong, as the cross-border effects of an individual bank's problems are normally minor. However, there are examples from Europe that have shown that an inability among national central banks to manage problems in small banks can lead to major problems in other countries. In a monetary union, incentives for national authorities to be clear on their own banks' problems can also be limited.

However, introducing a system of joint banking supervision is a highly complicated project, with the problems, both practical and political, being many. It is thus extremely important that the solution considers all aspects and is not rushed through.

One important factor to consider is that joint banking supervision will ultimately lead to questions with clear fiscal policy implications for the participating countries. These would include, for example, how deposit guarantees and costs for bank support and bank resolution should be funded and allocated between countries. A significant amount of ex ante funding of such resources, mainly by the banks themselves, would be an important precondition for support to be granted when necessary. One complicating circumstance is that the health of the European banks varies widely from country to country, meaning that expected assistance needs differ between countries. A long-term sustainable solution must consider this so that there is no systematic transfer of resources to weak banks from well-managed banks and taxpayers in countries with relatively strong public finances. Making joint banking supervision effective will require progress in parallel on these issues in the negotiations over a new deposit guarantee directive and the proposed directive on crisis management.

It is also of central importance that each country, under the framework of joint microsupervision, has sufficient scope to manage financial stability risks within its own borders. This is particularly important in a country like Sweden, which, due to its relatively large banking sector, risks being impacted by large economic costs in the event of a banking crisis. Consequently, it is very important that the Swedish authorities have the possibility of setting capital requirements for the Swedish banks above requirements for banks abroad. This is an important aspect of the assessment of several different parts of the European Commission's proposal, not least decision-making within the European Banking Authority (EBA), see below. It is also an important argument for placing responsibility for macroprudential policy instruments on a national level.

Effective joint banking supervision also requires all participating countries to be given the opportunity for sufficient influence over the decisions taken by the joint supervisory authority. The Commission's proposals are not balanced from this perspective. As far as possible, euro countries and participating non-euro countries should have the same degree of influence. This could involve, for example, voting rights for the participating non-euro countries in the special supervisory board that the Commission proposes should be set up

within the ECB. However, it should be noted that this would not mean full co-determination, as the final responsibility lies with the ECB's Governing Council, in which non-euro countries are prevented from participating by the Treaty on the Functioning of the European Union (the EUF Treaty) and the ECB Statute.

The European Commission's proposal would also entail major changes for countries choosing not to participate in the joint supervision. An important starting point for the European Commission is that a joint supervisory authority makes greater demands of joint regulation than national supervision does. Within the EU a large share of the responsibility for producing joint regulations for banking supervision lies with the EBA. Regulations that are determined by the EBA apply for all EU countries, however, and are not limited to applying only to countries that choose to participate in the joint supervision. If, as the European Commission proposes, the ECB were to coordinate the euro countries' actions in the EBA, there would be a significant risk that the regulations on banking supervision within the EU would reflect the wishes of the countries participating in the joint supervision rather than the needs of all 27 EU countries.

Due to the EBA's mandate to settle disputes between different supervisory authorities in the form of what is known as binding mediation, far-reaching coordination of the euro countries' actions in the EBA could make it significantly more difficult for supervisory authorities from non-participating countries to carry out supervisory measures regarding cross-border banks with operations in one euro country. According to the ECB's proposal, if the ECB, as a counterparty in what is known as the college of supervisors, were to question a certain measure and refer the matter to the EBA for a decision, the coordinated actions of the euro countries would automatically settle the matter. How a reasonable degree of protection of minorities can be ensured under the framework of the EBA is therefore important.

Intensive negotiation is currently underway within the EU's council structure with regard to the European Commission's proposal. Considerable energy has been expended on the issue of whether non-euro countries will have sufficient incentive to join the joint supervision. This concerns in particular these countries' influence in the decision-making process within the ECB. Another important question has been how the EBA's decision-making rules can be modified to ensure a reasonable balance between the needs and wishes of participating and non-participating countries.

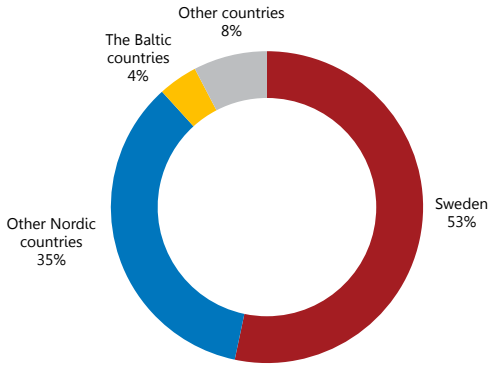
In summary, a great deal suggests that joint supervision of at least the major cross-border banks is justifiable. However, such a project would be very complicated and would require many major issues to be resolved for the results to be efficient and sustainable over the long term. A solution should not be pushed though in a short-term attempt to manage the current financial crisis in Europe.

3. The Swedish banking groups' borrowers

Over the course of this year, the rate of growth in Swedish household debt has slowed down at the same time as there has been a marginal increase in housing prices. It is likely that the rate of growth in household debt will continue to decline in 2013. The current assessment is that the debt-servicing ability of the Swedish households remains good. Most of the companies have short fixed-interest periods and the low interest rates have led to a reduction in the companies' interest expenditure during the year, which has improved their debt-servicing ability. However, economic developments are expected to lead to a slight increase in the default rate in the short term. In Denmark, the economy continues to grow slowly and the assessment is that the borrowers' debt-servicing ability is poorer than in the other Nordic countries. The debt-servicing ability of the borrowers in the Baltic countries continues to be weak.

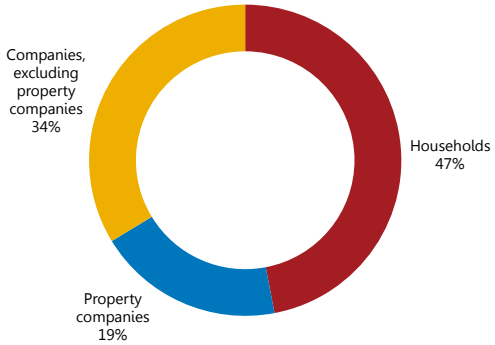
The banks' borrowers are an important factor when assessing the risks in the financial system as they affect the banks' earnings and credit risk. Almost half of the banks' lending takes place on markets outside Sweden (see Chart 3:1) and the lending is fairly evenly distributed between companies and households (see Chart 3:2).

Chart 3:1 The major Swedish banks' lending, geographical breakdown, September 2012



Note. Including interbank lending and excluding repos.
Sources: Bank reports and the Riksbank

Chart 3:2 The major Swedish banks' lending, borrower category breakdown, September 2012



Note. Including interbank lending and excluding repos.
Sources: Bank reports and the Riksbank

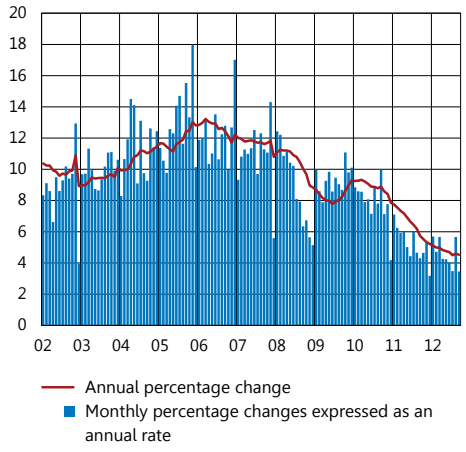
The Swedish household sector

During the course of 2012, the rate of growth in household credit has continued to decline while housing prices have increased somewhat (see Chart 3:3 and Chart 3:4). In contrast to the situation in 2010 and 2011, the slowdown in credit growth has occurred at the same time as mortgage rates have fallen. Weaker economic activity has probably contributed to this. Moreover, the mortgage cap has placed greater demands on households, which has probably had a subduing effect on household debt and on housing prices. However, there are still more households that expect to see rising, rather than falling, housing prices.[49] One factor that has probably contributed to this, especially in the metropolitan areas, is that relatively little new housing is under construction.

Household debt is expected to continue to increase in 2013, but at a slower rate. The prolonged unease in the euro area has had a tangible impact on growth and on the labour market in Sweden and households still have a gloomy view of the Swedish economy and on the situation on the labour market.[50] As a result of low interest rates, households' interest ratios (interest expenditure in relation to disposable income) are low. At the end of next year, interest rates and thereby interest ratios, are expected to rise at the same time as the debt ratio (debts in relation to disposable incomes) is expected to stabilise (see Chart 3:5).

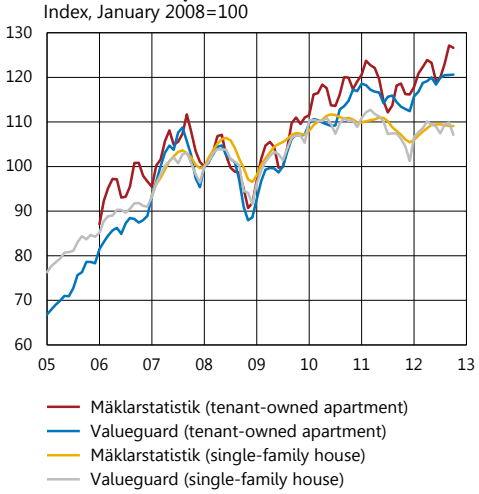
[49] See *Business Tendency Survey*, October 2012, National Institute of Economic Research, and *Housing price indicator* October 2012, SEB.
[50] See *Economic Tendency Survey* October 2012, National Institute of Economic Research.

Chart 3:3 Household debt
Per cent



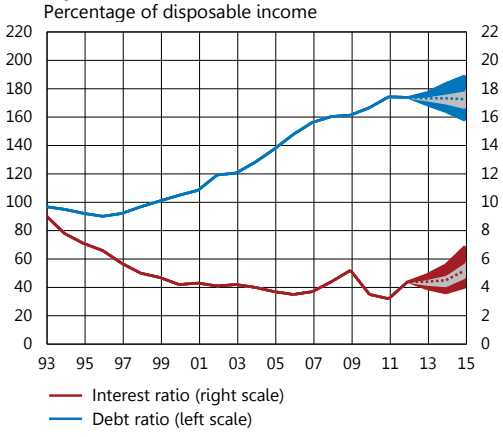
Note. Seasonally-adjusted data.
Sources: Statistics Sweden and the Riksbank

Chart 3:4 Prices for single-family houses and tenant-owned apartments
Index, January 2008=100



Note. All indices are for Sweden. Valueguard is a regression-based price index. Mäklarstatistik (tenant-owned apartments) is an index based on prices per square metre, while Mäklarstatistik (detached houses) is an index based on the C/I ratio.
Sources: Mäklarstatistik and Valueguard

Chart 3:5 Household debt and post-tax interest expenditure
Percentage of disposable income



Sources: Statistics Sweden and the Riksbank

The household sector's loan-to-value ratio has declined since the mortgage cap was introduced. The average loan-to-value ratio for mortgages has increased continuously since 2002, when it was 59 per cent. In year 2010 it was 71 per cent, but when the mortgage cap was introduced it declined for new loans for the first time in ten years and was 69 per cent in 2011.

There is large variation in the level of indebtedness in the household sector (see Chart 3:6). Total households debt amounts to over 170 per cent of their total disposable income. However, this figure includes households that have no debts. For those households that have debts, the level of indebtedness is therefore often much higher. Indebtedness is highest in the municipality of Stockholm, where new borrowers' debts are on average more than six times their disposable incomes. If the three metropolitan municipalities (Stockholm, Göteborg and Malmö) are excluded, new borrowers' debts are on average approximately four times their disposable incomes.

A majority of new borrowers choose not to amortise their mortgages (see Chart 3:7). In combination with the high level of indebtedness in new lending, this can lead to a situation in which the total debt stock continues to rise at a faster rate than incomes. A simple calculation can be used to illustrate how indebtedness is affected under different assumptions. Under the simplified assumptions that both household debt and disposable incomes increases by their historical averages since 1975, one can make a general calculation of how the debt ratio will be affected if households choose to amortise their loans over 50 years or not to amortise them at all (see Chart 3:8).[51] This calculation should not be confused with the Riksbank's forecast for the debt ratio (see Chart 3:5) and does not constitute an alternative scenario to the forecast. However, it can be used to illustrate how households' amortisation behaviour can have consequences for the time path of debt.

Despite weaker economic activity, it is expected that the debt-servicing ability of the households will remain good. Moreover, stress tests previously conducted by Finansinspektionen show that the debt-servicing ability of the households would remain good even if there were substantial increases in both interest rates and unemployment.[52] These stress tests show the proportion of households that would have a negative economic margin in various economic scenarios. They do not, however, show how many of the households that would be able to quickly reduce their other living expenses to continue servicing their debts. Nor do they show the effect on household consumption due to changes in income and

[51] The calculations are based on the assumption that debts, with amortisation, and disposable income will continue to grow by the historical average growth rates of 8.5 and 6.5 per cent, respectively. Growth in debts without amortisation has been assumed to be 10.5 per cent, which implies an amortisation period of 50 years.
[52] See *The Swedish mortgage market*, March 2012, Finansinspektionen.

expenditure and how this would affect the banks' loan losses on lending to non-financial companies.

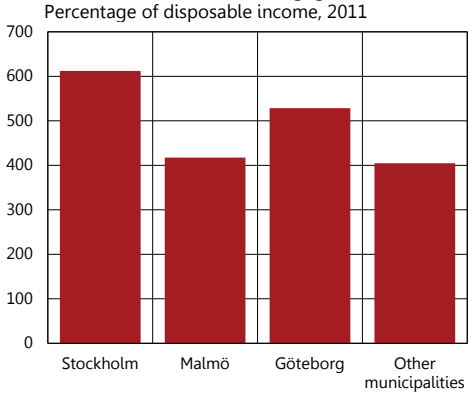
Total household saving is high, but saving in liquid assets is low (see Chart 3:9). The size of household saving depends on which definition is used. Total savings, which includes collective saving in pension agreements, PPM funds, own financial savings and households' investment in housing, amounted to just over ten per cent of disposable income at the end of June 2012. Households' own total savings, which exclude collective pension savings, but include housing investment, amounted to four per cent of disposable income at the same point in time. Own financial saving was just less than one per cent of disposable income.

Looking at households' total balance sheets, their wealth is greater than their debts (see Chart 3:10). In total, household wealth, which includes the market value of housing and second homes, amounted to just over 600 per cent of disposable incomes at the end of June 2012. But households' liquid wealth is lower and amounted to just over 150 per cent of disposable incomes, at the same point in time. This is slightly lower than the value of the households' total liabilities.

The Swedish corporate sector

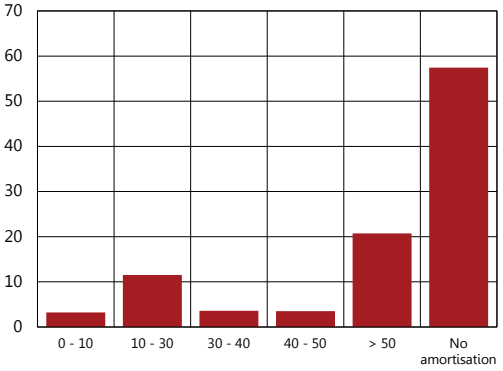
Credit conditions for Swedish companies remain largely unchanged since the first quarter of 2012.[53] This is confirmed by the Business Tendency Survey of the National Institute of Economic Research, in which the share of companies considering it to be substantially more difficult than normal to fund their operations has only marginally increased over the year.[54] The most common reason among companies reporting that they are finding it difficult to get funding is the stricter credit assessment on the part of the lenders. As in the case of the households, the interest rates charged to companies have fallen somewhat in 2012, and as most of the corporate loans have fixed-interest periods of up to three months, the companies' interest expenditure is quickly affected by changes in interest rates. The lower interest rates have thus improved the debt-servicing ability of the companies during the year.

Chart 3:6 Debts of new mortgage borrowers
Percentage of disposable income, 2011



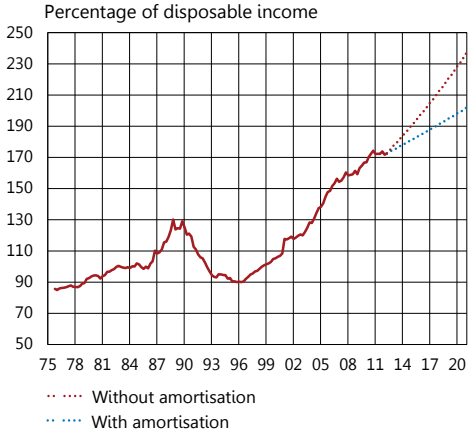
Source: Finansinspektionen and the Riksbank

Chart 3:7 Amortisation periods among new mortgage holders calculated in years
Percentage of households, 2011



Source: Finansinspektionen and the Riksbank

Chart 3:8 Example of household debt given different assumptions regarding amortisation behaviour
Percentage of disposable income

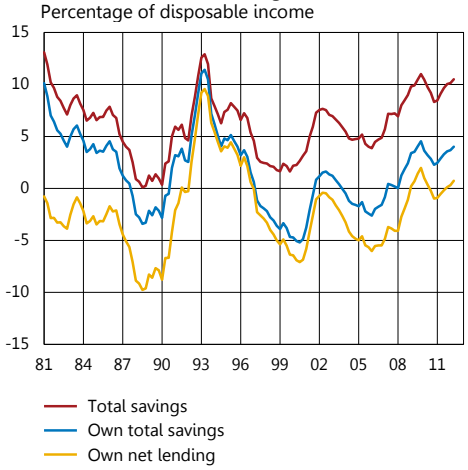


Note. The chart presents an example of how indebtedness may develop given different assumptions regarding how the households amortise their debts in the future. The chart should not be interpreted as the Riksbank's forecast.

Sources: Statistics Sweden and the Riksbank

[53] See *ALMI*, www.almi.se.
[54] See *Business Tendency Survey*, www.konj.se.

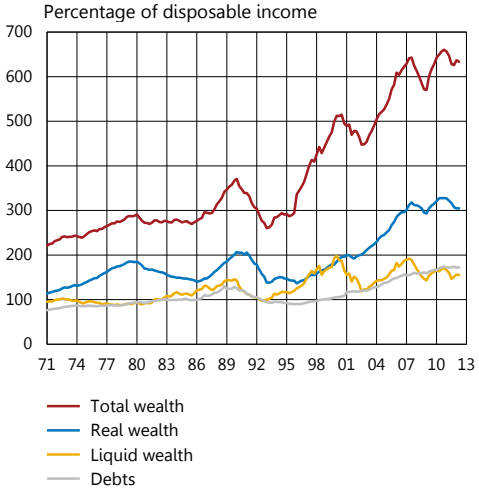
Chart 3:9 Household savings
Percentage of disposable income



Note. Total saving includes collective saving in pension schemes, PPM funds, own financial savings and housing investments. Own total saving is total saving excluding collective saving in pension schemes and PPM funds. Own financial saving is own total saving excluding housing investments.

Source: The Riksbank

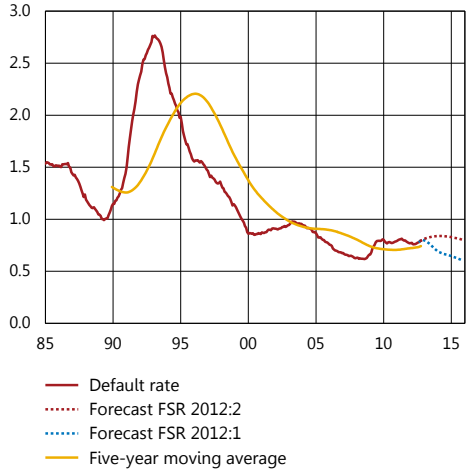
Chart 3:10 Household assets and debts
Percentage of disposable income



Note. There is no regular publication of official data for households' total wealth and its components. The series are based on the Riksbank's estimate of households' financial and real wealth. Real wealth is households' wealth in housing. Liquid wealth mainly consists of households' assets in cash, bank deposits, bonds and equity.

Sources: Statistics Sweden and the Riksbank

Chart 3:11 Default rate for Swedish companies
Per cent



Note. The default rate is defined as the number of defaults divided by the number of companies.

Source: The Riksbank

Despite the low interest rates, the companies are expected to reduce their demand for loans. This is because the economic slowdown and the uncertainty about the future are leading the companies to postpone their investment plans. Corporate debt is therefore expected to grow slightly slower compared to the assessment in the previous Financial Stability Report. There has also been a drift from bank loans to market funding for the larger Swedish companies during the year as they have been able to issue securities under favourable terms and conditions.[55]

The creditworthiness of the companies will probably weaken in the short term. The default rate in the Swedish economy has largely developed as expected and is at a relatively normal level given the present economic climate (see Chart 3:11). The economic developments are, however, expected to lead to an increase in the default rate in the short term, but in the longer term it is likely that the creditworthiness of the companies will stabilise as economic activity abroad improves. The main scenario is thus that defaults will stabilise at a somewhat higher level than today.

The Swedish banking groups' borrowers abroad

DENMARK

The problems in the Danish economy remain. Denmark is still suffering from the banking and property crisis of recent years. The development of the economy has mainly been the result of low private consumption and low investment. However, exports have been somewhat more positive, despite low growth abroad. This is because the Danish krona is tied to the euro, which has weakened against the currencies of many trading partners, and this has benefited the Danish export companies. However, poorer growth prospects abroad, on-going high unemployment, falling housing prices and low consumer confidence indicate that economic developments in Denmark will remain frail.

The Danish borrowers' debt-servicing ability is expected to remain weak. For the Danish household sector, this is mainly due to developments on the housing market and the slow recovery on the labour market. Falling housing prices have resulted in a further increase in loan-to-value ratios and an increasing number of households are thus in a situation in which their loans exceed the value of their homes. The fall in housing prices has also led to a rapid decrease in household wealth, while their debts remain high. Before housing prices fell, the Danish households' net assets were more than six times their disposable income and their debts were almost three times their disposable income. Now the households' net assets have fallen by a third while their debts have continued to increase

[55] See *Financial Market Statistics*, September 2012, Statistics Sweden.

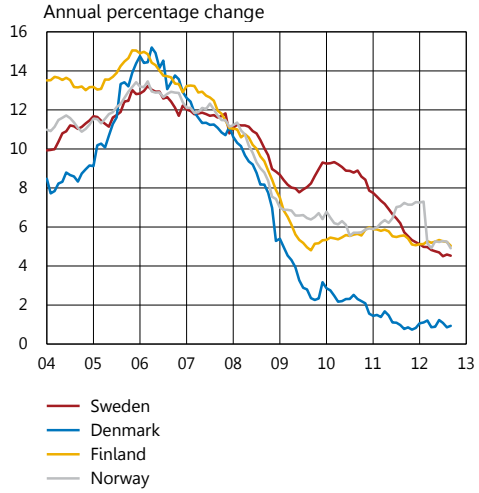
somewhat (see Chart 3:12).[56] The companies' creditworthiness also remains weak. As international growth prospects have deteriorated it is likely that the increase in exports in the previous quarter will prove to be temporary. Together with on-going low domestic demand, this indicates that defaults in the Danish corporate sector will increase somewhat in the quarters ahead.

The falling house prices may lead to further problems for the already problem-ridden Danish banking sector. The reason for this is that the households tend to limit their consumption in periods when their wealth declines, which in turn may reduce the debt-servicing ability of the companies. Furthermore, the Danish financial supervisory authority has recently introduced stricter write-down regulations.[57] In practice, the new regulations mean that Danish banks must make provisions for impaired loans in cases where the value of the loan exceeds the market value of the property. A further fall in Danish housing prices would thus lead to a situation in which the banks would have to hold more reserves at an earlier stage than before the regulatory change, as the value of the collateral for their mortgage lending would decline. Even if this is only a question of reserves for possible future losses, it is likely that the change in the regulations will reduce the banks' supply of credit in the short term.

FINLAND

Growth in the Finnish economy has been weak during the year as a result of reduced exports. It is mainly exports of electronic goods that have fallen substantially. However, domestic demand remains strong and consumer confidence has increased somewhat in 2012. The debts of the Finnish companies and households have also continued to increase, partly thanks to the low level of interest rates. The companies have taken the opportunity offered by the low interest rates to make long-term investments and build up liquidity, while the households have increased their consumption of capital goods. There are many indications that the Finnish government will conduct a tighter fiscal policy in 2013 and 2014, which together with low demand from abroad may slow down the growth of debt. The economic slowdown will probably weaken the creditworthiness of the Finnish companies somewhat, while a relatively low rate of unemployment and continued low policy rate mean that the debt-servicing ability of the Finnish households will remain good.

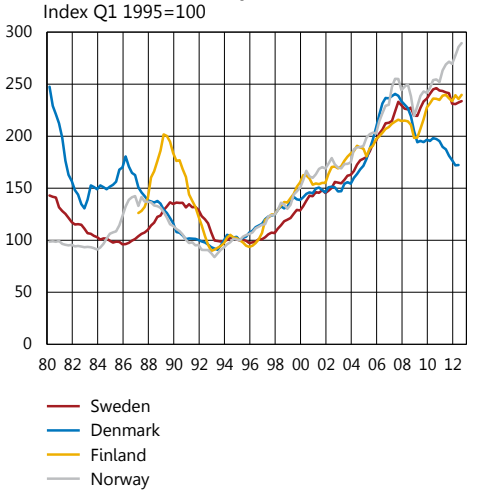
Chart 3:12 Household debts
Annual percentage change



Note. With effect from March 2012 there has been a reclassification of the sectors in the Norwegian statistics, which explains the shift in the Norwegian household debt.

Sources: Reuters EcoWin and the Riksbank

Chart 3:13 Real house prices
Index Q1 1995=100

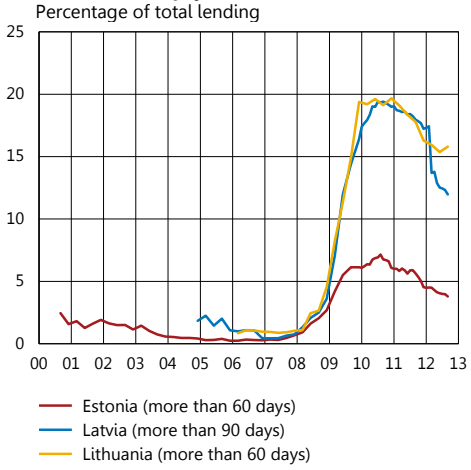


Note. Real house prices are defined as nominal prices deflated by the CPI.

Sources: Reuters EcoWin, Bank for International Settlements

[56] See *Monetary Review* 2nd Quarter Part 1, 2012, Danmarks Nationalbank.
[57] See Finanstilsynet's press release 29 March 2012, www.finanstilsynet.dk.

Chart 3:14 Late payments
Percentage of total lending



Note. The definition of late payments differs from country to country. The break in the series for Latvia is explained by the exclusion of data from Parex Bank from the statistics.

Sources: Eesti Pank, Financial and Capital Market Commission and Lietuvos Bankas

NORWAY

The Norwegian economy has grown strongly during the year and the growth prospects for 2013 and 2014 are also good.[58] The relatively strong growth in 2012 is due to the fact that both exports and domestic demand have been good. Investments in energy-related operations and the construction sector continued to grow. As such, employment and real wages are expected to develop strongly, which means that domestic demand will remain strong and house prices will continue to increase (see Chart 3:13). The strong economy is also expected to lead to the continued high growth of household and corporate debt in Norway. The assessment is that the debt-servicing ability of the Norwegian borrowers will be good in the period ahead, but household and corporate indebtedness may pose a risk if the economic activity abroad turns out weaker than expected.

THE BALTIC COUNTRIES

The debt-servicing ability of borrowers in the Baltic countries continues to be weak, but has improved somewhat during the year. To date, the debt-servicing ability of the borrowers has been supported by the low level of interest rates, at the same time as their incomes have increased. Housing prices and the value of other forms of collateral have increased, while write-downs have led to a decrease in the proportion of impaired loans. The improvement in debt-servicing ability and creditworthiness is reflected, for example, by the slight decrease in the proportion of late payments in relation to the total stock of loans in recent quarters. However, late payments remain at a relatively high level (see Chart 3:14).

Deposits from foreign citizens have increased dramatically in Latvia in recent months. The rapid increase in deposits is probably related to a fall in confidence in certain banks in southern Europe. At present, deposits from foreign citizens account for more than 50 per cent of Latvian banks' total deposits and it is likely that these inflows will continue in the period ahead. As deposits from foreign citizens are generally more volatile than domestic deposits, it is important to monitor developments in this area.

[58] See Statistics Norway, www.ssb.no.

Higher risk weights for Swedish mortgages promote financial stability

The Riksbank has on several occasions pointed out the need to raise the risk weights for Swedish mortgages. The models that the banks use to calculate the risk weights are based on historical data and therefore risk not taking important changes, such as the increased level of household debt in relation to disposable income, into account. The banks also lack incentives to fully take into account the risks that mortgage lending entails.

The resilience of the banks and the impact of the risk weights

In order for the financial system in Sweden to be stable, it is important that the Swedish banks are highly resilient to substantial falls in housing prices and the problems that could arise in such cases. A high level of resilience includes the banks being able to instil confidence in the market and the public even in such a situation. The banks' capital, and particularly their so-called Common Equity Tier 1 capital (CET 1), is a central element of this resilience. The statutory capital requirement therefore stipulates, among other things, the minimum level for a bank's CET 1 capital in relation to its risk-weighted assets.

When calculating the risk weighted assets, the value of each asset, for example a mortgage, is multiplied by a risk weight. The risk weights vary between different assets depending on how great the credit risk for each asset is deemed to be. The principle is that the higher the credit risk, the more capital the bank needs to hold.

The Basel II Accord, which was incorporated into Swedish legislation in 2007, allows the banks to calculate the risk weights for their credit exposures themselves, providing that their internal calculation models are approved by Finansinspektionen. The aim of introducing internal calculation models was to create a closer link between risks and capital requirements.

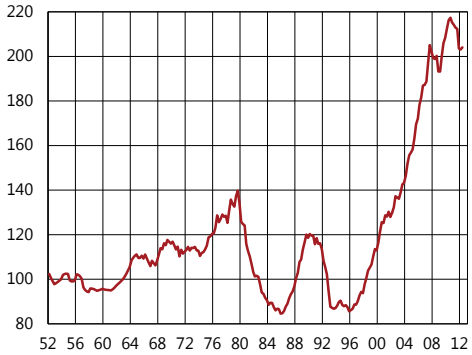
Low risk weights for mortgages in Sweden

All of the major participants on the Swedish mortgage market use internal models based on historical loan losses to calculate their credit risks.[59] As the Swedish banks have a history of almost non-existent loan losses on mortgages, their risk weights for mortgages are very low.

Loan losses have been so low because over the last 20 years the debt-servicing ability of the Swedish households has been strong as a result of good economic development and a well-developed social

[59] The so-called internal rating based (IRB) approach.

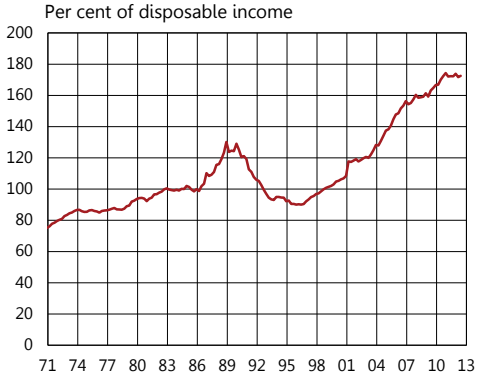
Chart R3:1 Real house prices in Sweden
Index 1952=100



Note. Real house prices are defined as nominal prices deflated with CPI.

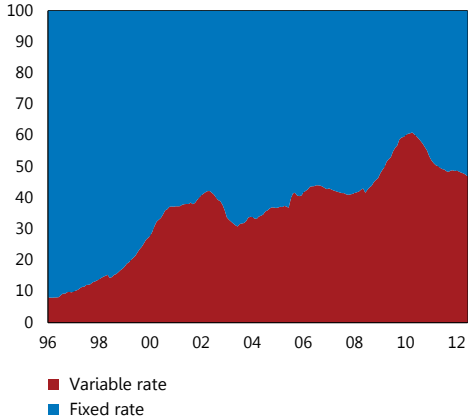
Sources: Statistics Sweden and the Riksbank

Chart R3:2 Household debt
Per cent of disposable income



Sources: Statistics Sweden and the Riksbank

Chart R3:3 Percentage of mortgages with variable or fixed rates in Sweden
Per cent



Source: Statistics Sweden

insurance system. It is also unusual in Sweden to purchase housing for speculative purposes, which is the case in a number of other countries. Furthermore, private individuals in Sweden have a far-reaching legal responsibility to make interest and amortisation payments on their loans, which means that bankruptcy is not a viable option for individuals who want to get rid of their debts.[60] Finally, the rising housing prices in Sweden have often led to a situation in which the value of the property concerned has covered the debts of households that have been forced to sell their homes (see Chart R3:1).

The risk weights do not fully take the risks into account

Over the past 20 years, there have been structural changes that retrospective models do not take into account. For instance, indebtedness has increased (see Chart R3:2), a larger share of households pay variable interest (see Chart R3:3) and the share of interest-only mortgages has increased.[61] Furthermore, in recent years there have been reforms of the social safety nets, for instance, the unemployment insurance scheme, which may have weakened households' financial strength in the event of an economic downswing. There are also indications that the variation between banks' risk weights for mortgages can largely be explained by differences in the banks' internal models, rather than by the individual qualities of the loans.[62] This means, all in all, that there is reason to interpret the results of the banks' internal models with caution.[63]

Even if the low risk weights for Swedish mortgages are correctly calculated on the basis of the risk in the individual banks' mortgage lending, there are good reasons to question them on the basis of a broader, economic point of view. Due to the provisions of Swedish bankruptcy law and the structure of the Swedish welfare system, the households continue to make interest and amortisation payments on their mortgages even in strained financial situations but instead cut back other forms of expenditure, which may reinforce a downturn.

[60] For a longer discussion of the Swedish system, see the Riksbank's commission of inquiry into risks on the Swedish housing market, chapter 11:6, page 181, *The system in Sweden.*
[61] Demoskop survey commissioned by SEB bank. Of the 1,000 persons interviewed, 538 had mortgages and responded to questions on amortisation. The survey was carried out during the period 28 March to 4 April 2012.
[62] This observation is based on a simple regression analysis with risk weights as dependent variable based on more than nine thousand observations. The explanatory variables are bank-specific dummy variables, borrower's loan-to-value ratio, income and left-to-live on amount in relation to income. The bank-specific variables contribute just over 14 per cent of the entire regression's coefficient of determination (R2) of almost 16 per cent.
[63] For a European perspective, see *Two Hundred Million inputs, Can you trust risk weightings at European banks?* Barclays Capital Equity Research 6 April, 2011.

When the debt-servicing ability of the households weakens it is thus the finances of non-financial companies and public finances that are affected first, before the banks begin to make loan losses on their mortgage lending.[64] The risk weights for mortgages do not therefore fully take into account the external effects that follow from too generous mortgage lending. Current risk weights are therefore probably too low in a broader economic perspective.

The risk weights need to be raised to strengthen the banks' resilience to future financial crises

There is uncertainty about the risks associated with mortgage lending and how well the risk weights reflect these risks. For precautionary reasons the current risk weights for Swedish mortgages should be increased. Higher risks weights entail a higher capital requirement for the banks, which in turn would strengthen the banks' resilience and increase confidence in their capital strength. A high level of confidence is particularly important for the Swedish banks due to their large use of market funding, a large share of which is in foreign currencies.

The Riksbank has earlier pointed to the risk that a substantial fall in housing prices could lead to liquidity problems for the banks, even if the direct loan losses from mortgages would be small.[65] Higher risk weights help increase investors' confidence, which may reduce this risk. Higher risks weights would also to a greater extent take into account the costs borne by the public sector and companies when the debt-servicing ability of the households weakens, which would ultimately contribute to a healthier development of the housing market. The Riksbank's calculations in Financial Stability Report 2012:1 show that the banks are well able to adapt to higher risk weights.[66]

[64] See the *Riksbank's commission of inquiry into risks on the Swedish housing market*, chapter 11:4, page 148, "Indirect effects of household indebtedness".
[65] See *Financial Stability Report 2012:1*, Sveriges Riksbank.
[66] *Financial Stability Report 2012:1*, page 18. Table 1:3. Core equity Tier 1 capital ratios according to Basel III with different risk weights for Swedish mortgages, Sveriges Riksbank.

4. Developments in the Swedish banking groups

The Riksbank's assessment is that the Swedish banks are financially strong. Since the previous Financial Stability Report was published, earnings have increased and loan losses have been relatively low. In addition, the Swedish banks have high core tier 1 capital ratios in an international comparison. Despite this, they are still exposed to risks. At present, the predominant risk is connected with the banks' extensive use of wholesale funding, above all in foreign currency. This means that the banks are dependent on market confidence and that they are vulnerable to disruptions on the financial markets.

The Swedish banking sector is dominated by the four major banks Handelsbanken, Nordea, SEB and Swedbank.[67] All in all, the banking groups' assets in Sweden and abroad are four times the size of Sweden's GDP. The four banking groups thus have decisive importance for the functioning of the Swedish financial system.

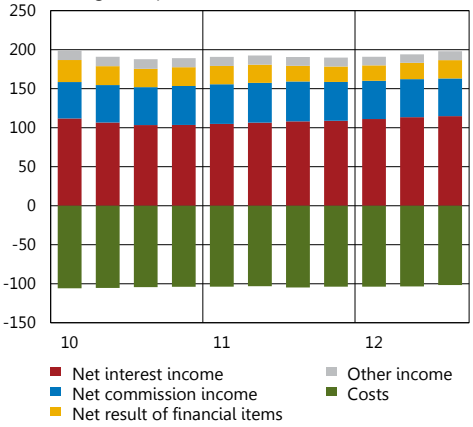
Earnings and profitability

The major banks' earnings have risen over the past two quarters. Above all, this is because the banks' net interest income has grown (see Chart 4:1). Firstly, the net interest income has been affected by an increase in deposit and lending volumes. The growth rate of deposits and loans has been positive since the start of 2011 and deposits have increased at a faster pace than lending (see Chart 4:2). In addition, the banks have increased their lending margins, which, put simply, means that they are earning more for every krona lent.

The margins on variable-rate mortgages in Sweden have increased (see blue field in Chart 4:3). This is because the banks have not reduced their lending rates at the same pace as their funding costs have fallen. This has led the gross margin, which is the difference between the banks' lending rates and funding costs, to become larger.[68] The fall in funding costs is primarily due to the decrease in risk premiums for the Swedish banks since the start of the year.

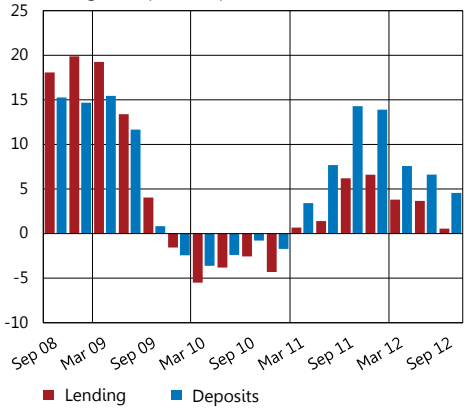
Stable costs have also contributed to the increase in the banks' earnings. Several of the major banks have recently carried out cutbacks, among other reasons to restrain personnel costs. This has contributed towards the banks' costs remaining unchanged or being slightly reduced in recent quarters. As incomes have increased over the same period, there has been a fall in the banks' costs in relation to their incomes, the C/I ratio. This can be seen as an indication that the banks have improved their cost efficiency.

Chart 4:1 Total income and costs
Rolling four quarters, SEK billion



Sources: Bank reports and the Riksbank

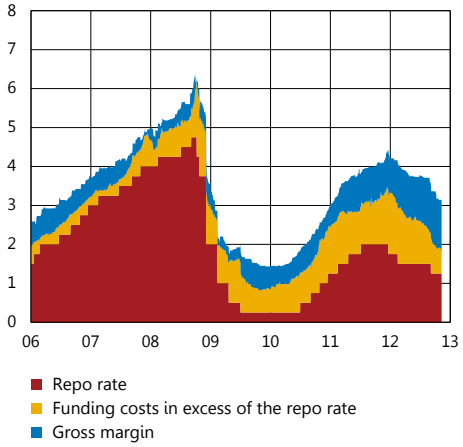
Chart 4:2 Change in deposits and lending
Rolling four quarters, per cent



Sources: Bank reports and the Riksbank

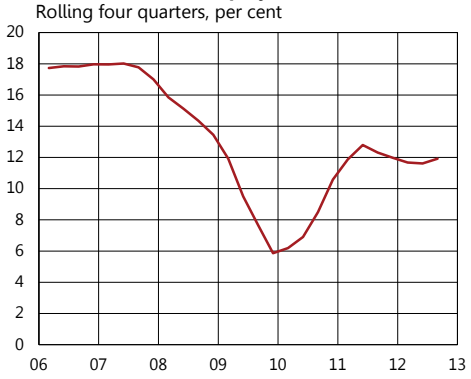
[67] The term the major Swedish banks refers hereinafter to the Handelsbanken, Nordea, SEB and Swedbank banking groups, including both domestic and foreign operations.
[68] The gross margin includes the banks' profits on mortgages, but must also cover other expenses such as administrative expenses and taxes.

Chart 4:3 Breakdown of interest rates on new Swedish mortgages with fixed-interest periods of three months
Per cent



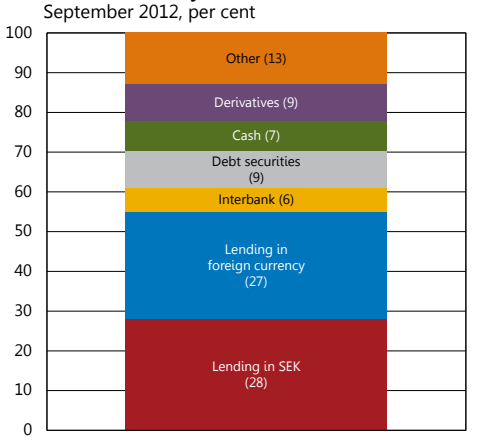
Sources: Bank reports, Reuters EcoWin and the Riksbank.

Chart 4:4 Return on equity
Rolling four quarters, per cent



Sources: Bank reports and the Riksbank

Chart 4:5 The major banks' assets
September 2012, per cent



Note. The balance sheet totals of the major banks amount to approximately SEK 13,000 billion. Cash also includes deposits in central banks.

Sources: Bank reports and the Riksbank

Higher earnings and low loan losses have led to higher profitability. Profitability, measured as return on equity, has risen since 2008 and 2009 (see Chart 4:4). This increase is mainly due to the significant fall in loan losses since then (see Chart 4:6). Even if profitability has increased, several of the banks have the explicit target of ensuring that, in the period ahead, return on equity will be on higher levels than at present. However, in comparison with many other European banks, profitability is relatively high in the Swedish banks.

Lending and credit risk

About 70 per cent of the major Swedish banks' assets consist of lending and interest-bearing securities (see Chart 4:5). These assets entail credit risk for the banks and this risk is thus one of the very greatest risk factors in the banks.

LENDING

The major part of the banks' lending relates to loans in the Nordic countries. The geographical distribution of the lending differs, however, from bank to bank (see Table 4:1). Nordea has a relatively small proportion of its total lending in Sweden but is the bank that has the largest proportion of its lending and its assets in the other Nordic countries. Swedbank and SEB are the two banks with large market shares in the Baltic countries, but Nordea also has part of its lending there. Handelsbanken has expanded its operations in the United Kingdom in recent years, and lending there now corresponds to about six per cent of the bank's total lending. The major banks' direct exposures to countries in the euro area with sovereign debt problems are very small.[69]

Table 4:1 Geographical distribution of the major Swedish banks' lending

September 2012, per cent and SEK billion

	Handelsbanken	Nordea	SEB	Swedbank	Total
Sweden	66	23	72	87	51
Norway	12	16	2	2	11
Denmark	4	21	1	0	10
Finland	6	24	1	1	13
Baltic countries	0	2	9	9	4
- Estonia	0	0,9	3	4	2
- Latvia	0	0,7	2	3	1
- Lithuania	0	0,7	4	3	1
Poland	0	2	0	0	1
Germany	< 1	0	13	0	2
United Kingdom	7	0	0	0	1
Other countries	5	12	3	1	7
Lending to the public, SEK billion	1 611	3 315	1 119	1 184	7 229

Sources: Bank reports and the Riksbank

[69] According to the European Banking Authority (EBA), the major banks' sovereign exposures to these countries amounted to SEK 263 million in June 2012.

CREDIT RISK

The Swedish banks' loan losses are still at relatively low levels (see Chart 4:6). Above all, reversals of earlier provisions have limited loan losses in recent quarters. Total credit losses amounted to just under SEK 11 billion over the last four quarters, which corresponds to 0.16 per cent of the banks' total lending to the public. This can be compared with the average loan loss level of just over 0.20 per cent measured since the mid-1990s.

However, lending to the shipping industry and to customers in Denmark has led loan losses to increase in recent quarters (see Chart 4:7). This has primarily affected Nordea, which has reported large loan losses from the shipping industry. In the third quarter, the level of loan losses from the shipping industry was equivalent to 1.6 per cent of Nordea's lending in the segment. In Denmark, loan losses primarily come from lending to small and medium-sized companies, but lending to households has also entailed losses.

The impaired loans have declined in the Baltic countries but increased in Denmark. Almost 30 per cent of the impaired loans come from the Baltic countries where above all SEB and Swedbank conduct part of their lending. Debt servicing ability has, however, improved in the Baltic countries recently. The inflow of new impaired loans has thus decreased. In Denmark the impaired loans have increased. This is connected with the weak economic development of the country, which has affected both corporate and household debt-servicing ability. In total, impaired loans amounted to 1.4 per cent of the major banks' gross lending during the third quarter of 2012.

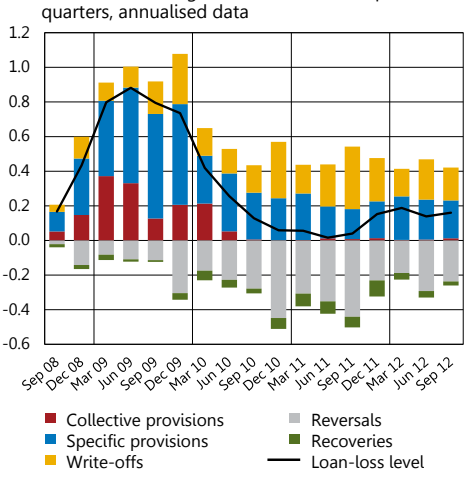
Capital

In an international comparison, the Swedish banks have high core Tier 1 capital ratios (see Chart 4:8). This is partly the result of the increase of the Swedish banks' core Tier 1 capital ratios since the autumn of 2008 (see Chart 4:9). The increase is due to several different measures carried out by the banks. Firstly, they have increased their capital with the help of retained earnings. In addition, three of the banks also conducted rights issues in 2008 and 2009. However, the most important factor behind the higher capital ratios is the banks' reduction of risk-weighted assets, which means that the denominator has become smaller in the calculation of the core Tier 1 capital ratio.[70]

There are several reasons for the decrease of risk-weighted assets. To a certain extent, the change is a result of an actual decrease of the proportion of high-risk assets. Among other reasons, this is due to a decrease in the proportion of corporate loans, which

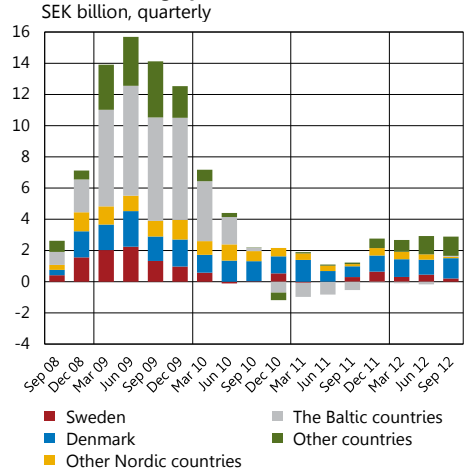
[70] The core Tier 1 capital ratio is the proportion of core Tier 1 capital to the risk-weighted value of the banks' assets.

Chart 4:6 The major banks' loan losses
Per cent of lending at the start of the respective quarters, annualised data



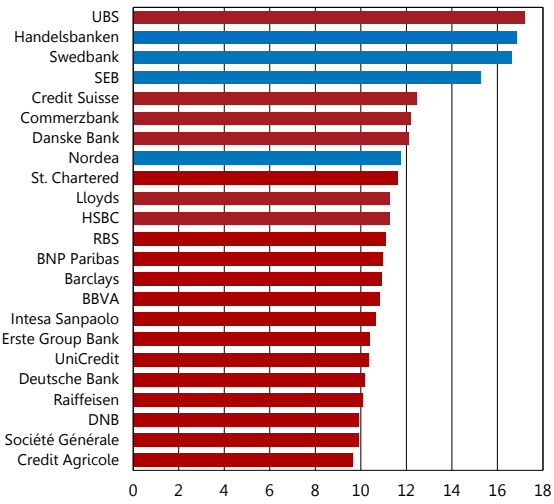
Sources: Bank reports and the Riksbank

Chart 4:7 Geographical distribution of loan losses
SEK billion, quarterly



Sources: Bank reports and the Riksbank

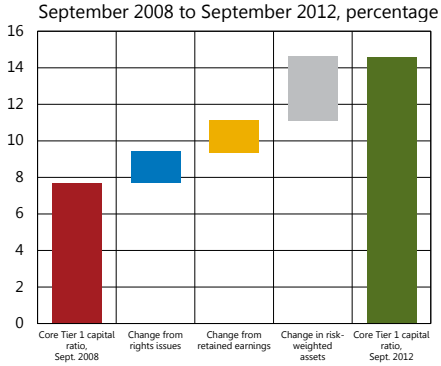
Chart 4:8 Core Tier 1 capital ratios according to Basel II
June 2012, per cent



Note. Same sample of banks as in Chart 4:10 and Chart 4:12.
Sources: SNL and the Riksbank

Chart 4:9 Change in core Tier 1 capital ratio

September 2008 to September 2012, percentage

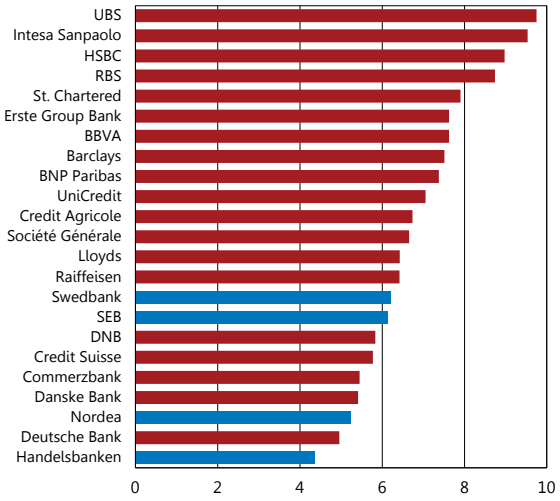


Note. Refers to the major banks, aggregated (according to Basel II). Dividends have been deducted from the change from retained earnings.

Sources: Bank reports and the Riksbank

Chart 4:10 Adjusted leverage ratio

December 2011, per cent

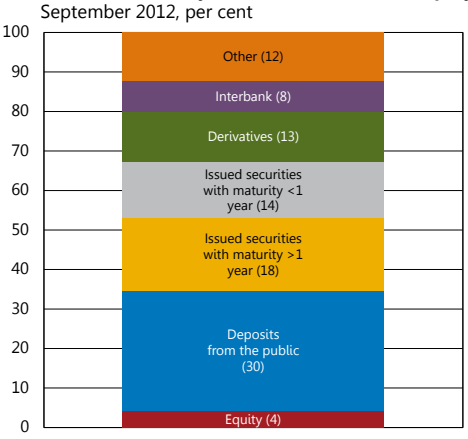


Note. Specifies the banks' equity in relation to their total assets less reverse repos, derivatives and insurance assets. It should not be mistaken for the leverage ratio according to Basel III.

Sources: Liquidatum and the Riksbank

Chart 4:11 The major banks' liabilities and equity

September 2012, per cent



Note. The balance sheet totals of the major banks amount to approximately SEK 13,000 billion.

Sources: Bank reports and the Riksbank

are usually associated with higher risks, in favour of mortgages, which are usually associated with lower risks. In addition, there has been a decline in lending in countries with a higher credit risk, such as the Baltic countries. Another reason for the change in risk-weighted assets is that the banks have reclassified parts of their loan portfolios so that a larger proportion of the assets are risk classified on the basis of the banks' own internal models instead of on the basis of predetermined standard methods. In these cases, the risk weights have decreased even though the actual credit risk associated with the loans has not changed.

Despite the high capital ratios, the leverage ratio is relatively low in the Swedish banks (see Chart 4:10). This means that the proportion of equity in relation to total assets is small. The high core Tier 1 capital ratios of the Swedish banks is thus a result of the low risk weights of several of their assets (see box Higher risk weights for Swedish mortgages promote financial stability). Neither have the banks' leverage ratios increased to the same extent as their core Tier 1 capital ratios. Even though risk-weighted assets have decreased since 2008, the banks' total assets have actually increased and equity has only increased at a slightly faster pace.

Funding and liquidity risks

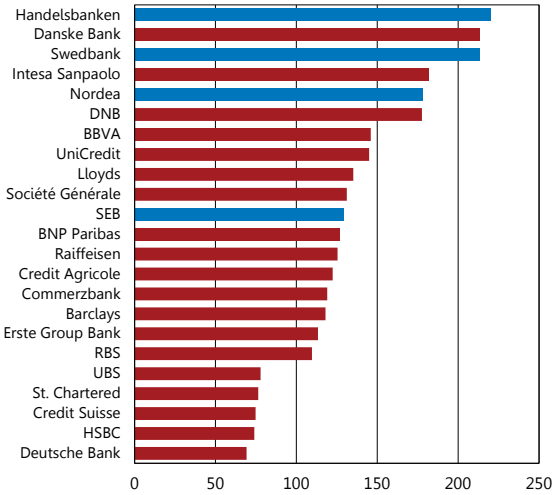
The Swedish banks are still using wholesale funding to a large extent. Wholesale funding in the form of debt securities issued is about the same size as total deposits from the public (see Chart 4:11). This means that the Swedish banks generally differ from foreign banks in that their proportion of deposits is comparatively small (see Chart 4:12).

The Swedish banks' approach to funding entails structural liquidity risks. Over 40 per cent of the banks' issued debt securities have remaining time to maturity of less than one year. As pointed out above, the proportion of deposits is also relatively small. The high structural liquidity risks in the Swedish banks is reflected by the low values of both the liquidity measure NSFR (see Chart 4:13) and the Riksbank's structural liquidity measure.

Moreover, the proportion of foreign wholesale funding is high (see Chart 4:14). About one-third of the long-term debt securities issued are in foreign currency. In turn, the short-term funding, which is comprised of bank certificates, is almost exclusively issued in foreign currency (see Chart 4:15). The major banks' outstanding volumes of Swedish certificates currently amount to only about SEK 60 billion, compared with a total of just over SEK 800 billion in outstanding bank certificates in foreign currency. All in all, the international financial markets are thus very important for the funding of the Swedish banks. This is particularly the case for the short-term funding.

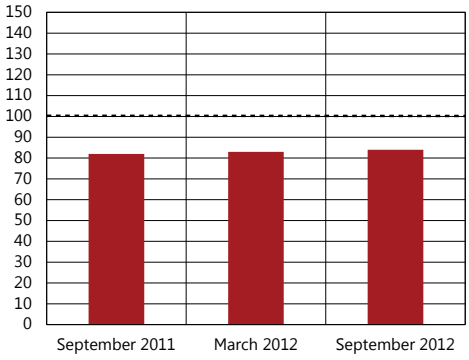
Foreign wholesale funding is used for different purposes. It is estimated that about one-quarter is used to fund assets in Swedish kronor. To avoid the undesirable effects of exchange rate fluctuations, the banks swap this part of wholesale funding for Swedish kronor with the help of currency swaps. This also avoids liquidity risks in foreign currency. Another part of foreign wholesale funding is used to fund liquid assets in foreign currency, such as deposits in central banks and holdings in foreign government bonds. The remaining portion of foreign wholesale funding is used to fund more illiquid lending in foreign currency. Liquidity risks in foreign currency arise in connection with this. This is because the banks must continually rely on being able to fund their lending with the same currency, which has sometimes been problematic in times of stress. These risks are particularly apparent in US dollars, where about 80 per cent of the wholesale funding has a remaining time to maturity of less than one year, at the same time as there is a relatively large proportion of lending in US dollars with longer maturities (see Chart 4:19).

Chart 4:12 Lending in relation to deposits
December 2011, per cent



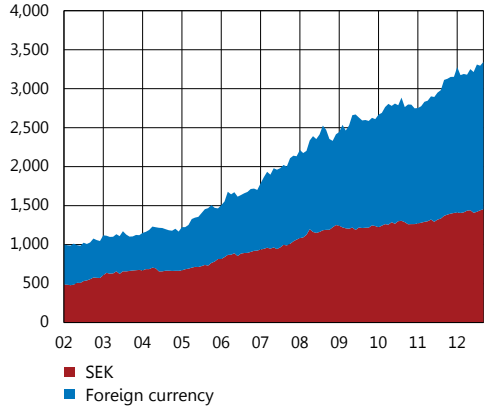
Note. Excluding repos and reverse repos.
Sources: Liquidatum and the Riksbank

Chart 4:13 Average NSFR
Per cent



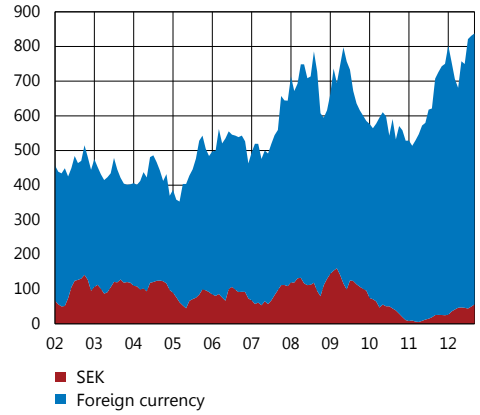
Sources: Finansinspektionen and the Riksbank

Chart 4:14 Wholesale funding via Swedish parent companies and Swedish subsidiaries
SEK billion



Sources: Statistics Sweden and the Riksbank

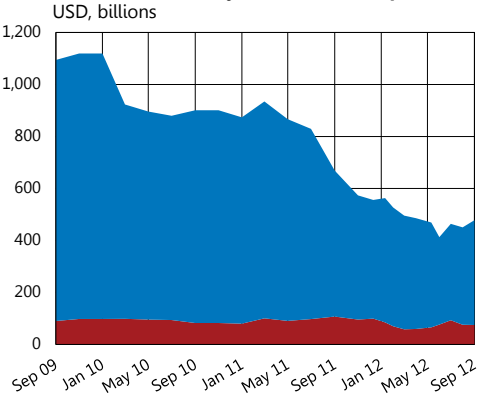
Chart 4:15 Outstanding bank certificates
SEK billion



Note. Refers to certificates issued via the major banks' Swedish parent companies and Swedish subsidiaries.

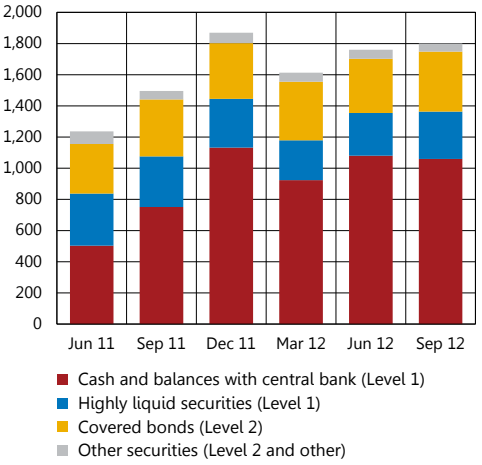
Sources: Statistics Sweden and the Riksbank

Chart 4:16 US money market funds' exposures
USD, billions



Sources: Fitch Ratings and the Riksbank

Chart 4:17 The major banks' liquidity buffers
SEK billion



Note. Refers to published liquidity buffers according to the Swedish Bankers' Association's standard. Own covered bonds are not included.

Sources: Bank reports and the Riksbank

However, at present, the Swedish banks have good access to wholesale funding both in Swedish kronor and foreign currency. This is largely because Swedish banks, unlike banks in a number of other European countries, have managed to retain the market's confidence and have thereby had the opportunity to issue securities with both short and long maturities. In some cases, the Swedish banks have even had an advantage as they have been seen as less risky than many other banks and have thus attracted investors. Among other things, this has meant that the Swedish banks have issued both covered and unsecured bonds for comparatively low rates of interest.

The Swedish banks have experienced an increased inflow of short-term funding, primarily in US dollars. The reason for this is partly that Swedish banks are currently seen as safe. In addition, there is a large surplus of liquidity in the euro area, the United States and other areas, as the central banks are supplying the banking systems with extra liquidity. All in all, this has meant that it has been both easy and relatively inexpensive for the Swedish banks to obtain short-term funding both through funding via bank certificates and through deposits.

Due to the sovereign debt problems in the euro area, US money market funds have reduced their lending to European banks. This applies in particular to banks with greater exposures to the euro area countries with sovereign debt problems. However, recently, this trend seems to have turned, and the US money market funds' exposures to European banks have again increased slightly (see Chart 4:16). On the other hand, new regulations for the US money market funds are currently considered, including rules regarding their liquidity management. This could make it more difficult for banks to issue bank certificates in US dollar in the future.

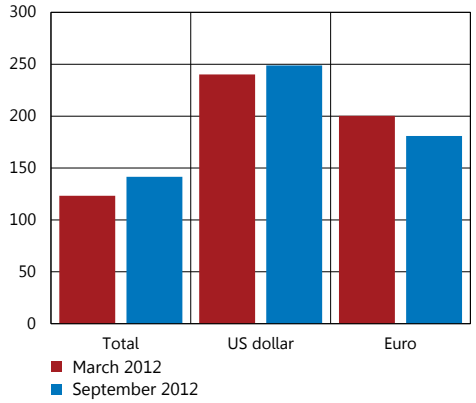
The increased short-term funding has contributed to the larger liquidity buffers now held by the banks. The banks have chosen to place a relatively large portion of their short-term funding in foreign currency directly in central banks (see Chart 4:17). Much of this funding is denominated in dollars and is consequently placed in the Federal Reserve. As deposits in central banks are classed as highly-liquid assets (Level 1 assets) in the LCR[71], this has meant that the banks' liquidity buffers have increased in the calculation of the measure. In turn, this has contributed to the improvement of their LCRs, both in total and separately in US dollars (see Chart 4:18). Consequently, the resilience of the banks to short-term shocks on the financial markets has improved. However, if the present surplus liquidity in the banking system were to be reduced, it would not be as easy to build up liquidity buffers by placing money in central

[71] Short-term liquidity measure according to the Basel Committee's definition. The measure indicates a bank's ability to handle a stressed liquidity outflow over a period of 30 days.

banks. The buffers would then have to consist of highly-liquid securities to a greater extent.

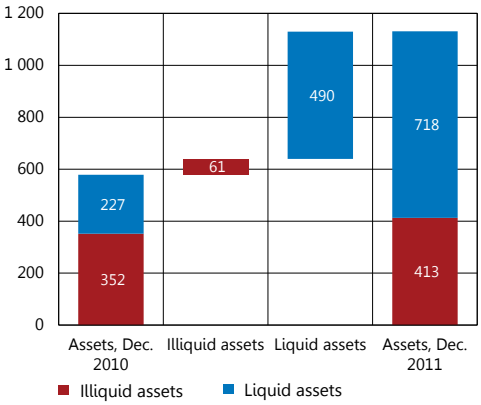
Although the banks' resilience has increased over the short term, the structural liquidity risks in US dollars remains. The banks have not only liquid dollar assets in the form of interest-bearing securities and deposits in central banks, but also illiquid dollar assets in the form of lending to the general public. Chart 4:19 shows that the liquid assets in dollars increased markedly in 2011. Among other effects, the increase of liquid assets has contributed towards the increase of the above-mentioned liquidity buffers, which, in turn, has contributed to higher LCR levels. Since the illiquid assets are not funded with enough stable funding, the structural liquidity risk however remains.

Chart 4:18 The major banks' average LCR
Per cent



Sources: Finansinspektionen and the Riksbank

Chart 4:19 The major banks' assets in US dollars
SEK billion



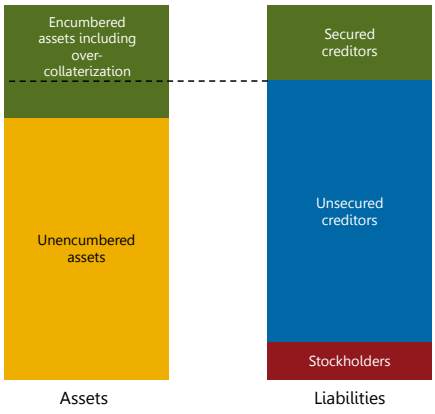
Note. Illiquid assets consist primarily of lending to the general public; liquid assets are deposits in central banks, interest-bearing securities and interbank lending.

Sources: Bank reports and the Riksbank

Asset encumbrance and disclosure

Since the outbreak of the global financial crisis in 2008, asset encumbrance has increased sharply in banks around the world. This box explains what asset encumbrance is and how it arises. It then reviews asset encumbrance in Sweden and Europe, and explains why disclosure on asset encumbrance is important for financial stability.

Chart R4:1 Stylised balance sheet for a bank



Note. The over-collateralisation is shown under the broken line in the green field.

Source: The Riksbank

What is asset encumbrance?

Asset encumbrance arises when assets are used as collateral for a lender's claim. If a bank is unable to repay its debt, a creditor whose claim is secured has a priority to the cash flow from the encumbered asset. This cash flow can either come from the encumbered asset on a current basis or arise when it is sold. The investor who has a secured claim thus has an extra layer of safety in the event of a bank failure compared with an investor whose claim is unsecured (see Chart R4:1).

A consequence of asset encumbrance is therefore that risk is moved from one group of investors to another. While secured creditors are offered a less risky investment, the risk to unsecured creditors increases, since fewer assets will be left for them in the event of a bankruptcy.

In this way the preferences of different investors with varying risk appetite can be met, which in turn can lead to lower funding costs for the bank. Moreover, in some stressed situations banks may find it difficult to obtain unsecured funding. Given then that the bank has assets to pledge, recourse to secured funding may be the only viable option.

Asset encumbrance in a bank is often expressed in relative terms, where the two most common ratios are encumbered assets to total assets and secured debt to total debt.

How does asset encumbrance arise?

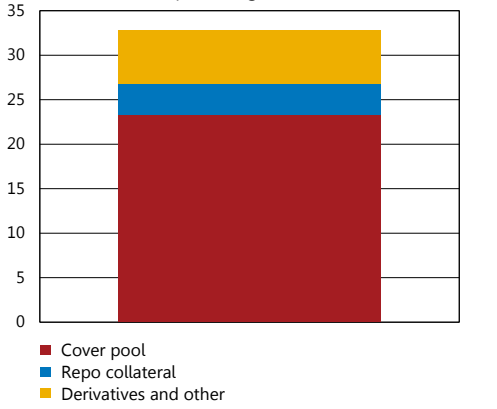
The most common sources of asset encumbrance for banks are different types of secured debt such as repos, covered bonds and derivatives. Insurance operations and securitisation can also lead to asset encumbrance, but this is less common since relatively few banks run extensive operations of this type.

A repo transaction means that a security is exchanged for cash for a predetermined period. This can take place both between two private agents and between a private agent and a central bank.

Covered bonds are a long-term funding source for banks. The most common assets linked to covered bonds are mortgages. Due to restrictions on the type of asset that may be used as collateral in the cover pool guaranteeing the covered bonds, the level of encumbrance varies sharply between different banks depending on their business model.

Derivative instruments can also lead to asset encumbrance. When a derivative contract is activated the value of the contract is usually zero for both contracting parties, but as the contract period runs one party usually acquires a claim on the other party. To ensure payment, the claimant can therefore require that the counterparty pledges assets as collateral for the debt. Since the value of the derivative contract can change very fast, the amount of assets that must be encumbered can also suddenly increase. The increase also takes place outside the direct control of the bank.[72]

Chart R4:2 Average encumbrance ratio for the four major Swedish banks
December 2011, percentage of total assets



Note. The graph shows how large share of the banks' total assets is encumbered for different types of debt.

Sources: Bank reports and the Riksbank

Asset encumbrance in Swedish and European banks

The average degree of encumbrance for the major Swedish banks was about 33 per cent at the end of 2011 (see Chart R4:2). The majority of encumbrances were due to assets being pledged as collateral for covered bonds.

According to available data, the Swedish banks' asset encumbrance was higher than the average for European banks at the end of 2010. This is a consequence of the structure of the Swedish financial system, where the banks retain mortgages on their balance sheets and where alternative funding for loans, such as securitization, is limited.[73]

In connection with the intensified euro crisis, the degree of assets encumbered in European banks has increased, which is mainly due to the banks' repo agreements with central banks.[74] The reason for this is that some banks that have not had access to unsecured funding replaced private funding with long-term loans from the ECB via the LTRO that was offered in December 2011 and in February 2012.[75]

Why is transparency concerning asset encumbrance important for financial stability?

As mentioned in the introduction, the encumbrance of assets means that risk is moved from one group of investors to another. To allow investors to take this into consideration when deciding on their

[72] An illustrative example is Dexia's situation in 2011, where the low interest rate level forced the bank to dramatically increase the pledging of assets due to swap contracts entered into. *Financial Stability Report 2012:1*, National Bank of Belgium.
[73] *Over-promising?* Encumbrance at European banks, *Barclays Capital Equity Research*, Barclays Capital, 2012.
[74] See also Juks, Reimo (2012), "Asset encumbrance and its relevance for financial stability", *Sveriges Riksbank Economic Review 2012:2*, Sveriges Riksbank.
[75] "Over-promising? Encumbrance at European banks", *Barclays Capital Equity Research*, Barclays Capital, 2012.

return requirements they must have clear information concerning encumbrance.

The information on asset encumbrance that is currently available to the public is not complete and varies substantially between different banks. This leads to a situation in which investors may find it difficult to price the risk they take. The consequence of this is that the banks' risk levels will not affect their funding costs as much as would otherwise be the case. This is negative for financial stability, partly because the banks are not given sufficient incentive to reduce their risk and partly because funds ends up to a greater extent with banks with a high level of risk than would otherwise have been the case. Moreover, it risks prolonging a crisis. The reason for this is that the banks may find it difficult to obtain unsecured funding if the investors do not have sufficient information about asset encumbrance.

If, in addition, the banks count on being able to transfer some of their costs for these risks to the government, and thus to the taxpayers, there is a risk that the proportion of encumbered assets will be larger than is economically justified.[76]

Although the information that investors need may vary, both between the banks and between investors, certain information should always be available. For further information on this, see the recommendation on asset encumbrance in Chapter 1.

[76] One example of such a guarantee is the deposit guarantee system.

5. Future prospects, risks and stress tests

Despite a somewhat weaker economy in Sweden going forward, the Riksbank believes that the earnings of major Swedish banks will increase during the forecast period 2013–2015. The situation for the banks may, however, deteriorate if the euro area suffers new financial shocks, above all if this were to lead to a rapid fall in Swedish housing prices. On the one hand the banks could have difficulties in obtaining market funding and on the other hand their loan losses could increase. The Riksbank's stress tests show, however, that Swedish banks can stand up to increased loan losses. Still, the Swedish banks are taking somewhat greater structural liquidity risks than many other banks in Europe, according to the Riksbank's liquidity measure.

Main scenario

The financial markets will continue to be characterised by unease and the weak trend in the euro area will dampen growth in the global economy as a whole.[77] It is mainly in southern Europe that the rate of growth is weak, but there are also indications of a weakening economic activity in countries such as France and Germany. The recovery in the United States is expected to continue, although relatively slowly, and the potential for domestically-driven growth will improve as the housing market stabilises and household consumption increases. However, the growth rate in the emerging economies will decrease somewhat going forward, but will continue to be higher than in the more developed countries.

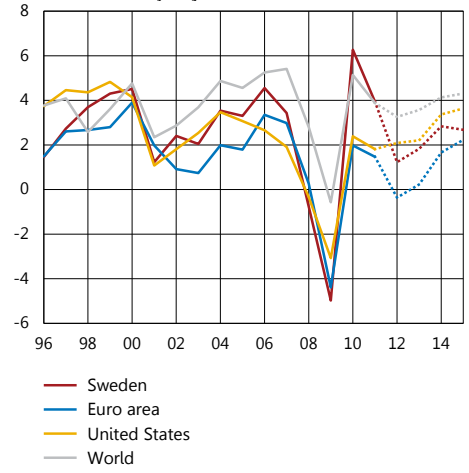
The global economy is continuing to be affected by developments in the euro area. The growth rate in Sweden is expected to decrease in 2012, mainly because export growth is decreasing as a result of weaker international demand and a stronger krona. However, the relatively good purchasing power of Swedish households is expected to help maintain demand in the Swedish economy. Over the course of next year, economic activity abroad is expected to gradually improve (see Chart 5:1). This means that export growth and investment will pick up, thus contributing to increased growth in the Swedish economy.

Increased lending and cost-cutting are the main explanations for the coming increase in the major banks' profit before loan losses (see Chart 5:2). Net interest income, the major banks' largest item of income, is expected to increase as a result of increased household and corporate lending. Other income, such as commission income, is expected to rise in line with the economy. In addition all the major banks are expected to carry out cost-cutting measures, which will also contribute to an increase in their profits before loan losses.

Loan losses in the major Swedish banks are expected to remain relatively unchanged over the next few years (see Chart 5:3). It is mainly in the area of lending to non-financial companies and households in Denmark that a large part of the loan losses are

Chart 5:1 GDP growth in the main scenario

Quarterly changes in per cent calculated as an annual rate, seasonally-adjusted data



Sources: Bureau of Economic Analysis, Eurostat, Statistics Sweden and the Riksbank.

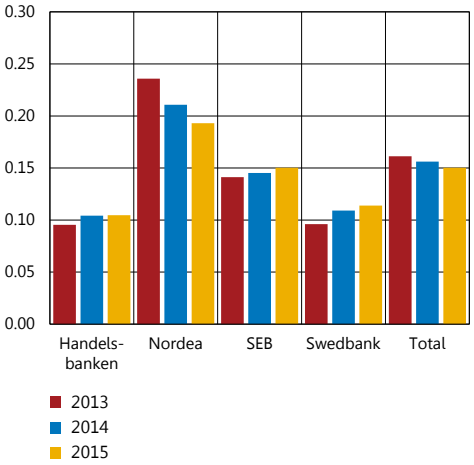
Chart 5:2 Profit before loan losses and loan losses in the four major banks according to the main scenario

Rolling four quarters, SEK billion, fixed prices, September 2012

Sources: Bank reports and the Riksbank

[77] The main scenario is based on the macroeconomic forecasts acting as a basis for the *Monetary Policy Report October 2012*, Sveriges Riksbank.

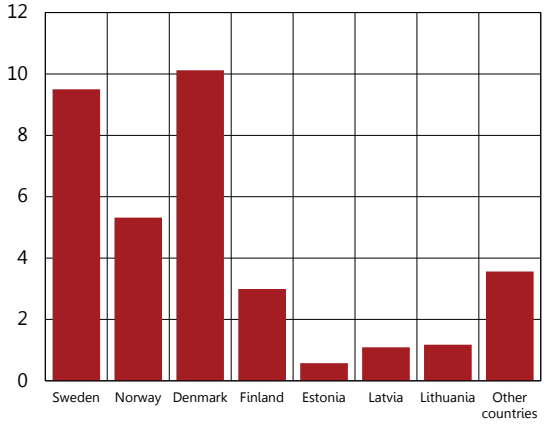
Chart 5:3 Loan loss level in the main scenario
Per cent



Note. Loan losses per year in relation to total lending at the start of respective year.

Source: The Riksbank

Chart 5:4 Distribution of loan losses in the main scenario per region during the period 2013–2015
SEK billion



Source: The Riksbank

expected to arise, which will mainly affect Nordea (see Chart 5:3). Large loan losses are also expected in the shipping industry, which mainly affects the banks' Norwegian operations. In recent years the reversals and recoveries in the Baltic countries have been greater than new provisions, which have had a positive impact on the banks' earnings. These reversals are now decreasing, however, and will lead to increasing loan losses in the Baltic countries (see Chart 5:3 and Chart 5:4).

Table 5:1 Loan losses per bank in the main scenario

SEK billion

	2013	2014	2015	Total during the period
Handelsbanken	1.6	1.8	1.9	5.3
Nordea	6.9	6.4	6.1	19.4
SEB	1.7	1.8	1.9	5.5
Swedbank	1.2	1.4	1.6	4.2
Total	**11.5**	**11.5**	**11.4**	**34.3**

Source: The Riksbank

Risks

The situation in the euro area constitutes the largest single risk to the Swedish financial system. This is also clear from the Riksbank's risk survey. [78] According to the survey responses, market participants consider that this risk has increased over the past six months. However, market unease has declined thanks to the ECB's commitment to conduct support purchases of government bonds under certain circumstances. The governments in the crisis-hit countries have thus been given more time to take measures that can more permanently stabilise the domestic economic situation. However, if this respite is not used to implement reforms that can strengthen public finances, recapitalise banks and improve competitiveness, market confidence may rapidly decline once again.

There are several possible chains of events that can lead to increasing unease on the financial markets. For example, the negotiations on the euro area's new support measures may take longer than expected, or it may not be possible to implement the measures as intended. The market unease may also increase if the debt-ridden countries fail to implement the reforms required to deal with the underlying problems and create the potential for sustainable growth.

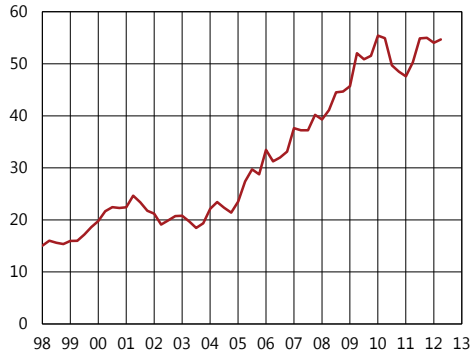
[78] See *Market participants' views on risks and the functioning of the Swedish fixed income and foreign exchange markets*, Sveriges Riksbank, 2012.

If market confidence wanes, the banks and governments in the euro area that are currently in a strained situation may once again find it difficult to obtain funding. There is a risk that this would affect lending to households and companies as well as the development of the real economy in the euro area. As public finances are already weak and monetary policy is already expansionary, the scope for stimulating the economy further is limited if the situation deteriorates. There is thus a risk that the recession in the euro area will be prolonged if the financial markets suffer new shocks.

In the event of a substantial increase in stress on the financial markets due to a worsening of the situation in the euro area, even financially strong banks may find it difficult to get access to market funding. Such a scenario would be serious for the Swedish banks as their extensive funding in foreign currency makes them dependent on the functioning of the financial markets (see Chart 5:5). For example, their short-term market funding is almost exclusively in foreign currency and the banks' structural liquidity risks in foreign currency are often higher than those in Swedish kronor. The Swedish banks may also be affected if the recession in the euro area is deeper and more prolonged than in the main scenario. In such a scenario, economic activity in Sweden may weaken.[79] This may lead to an increase in the banks' loan losses, above all in connection with lending to small and medium-sized companies.

Weaker economic activity could contribute to a fall in housing prices in Sweden. Stress tests show that the households would manage to pay the interest on their loans, even if unemployment increases.[80] However, the stress tests do not show the effects that falling housing prices could have on economic activity if the households choose to change their saving behaviour. As household indebtedness is high in both an historical perspective and in comparison with many other countries, falling housing prices could lead households to save rather than consume in order to compensate for the reduction in the value of their homes. At present, households' total assets exceed their liabilities by a broad margin, but their assets are mainly illiquid, which makes them more difficult to use to quickly reduce their debts. If other sectors of the economy do not have the capacity to increase their consumption or investments to compensate for this lower level of household consumption, the economic downturn may be reinforced and both unemployment and the banks' loan losses on lending to companies could increase further.

Chart 5:5 Swedish banks' market funding in foreign currency
Per cent of GDP

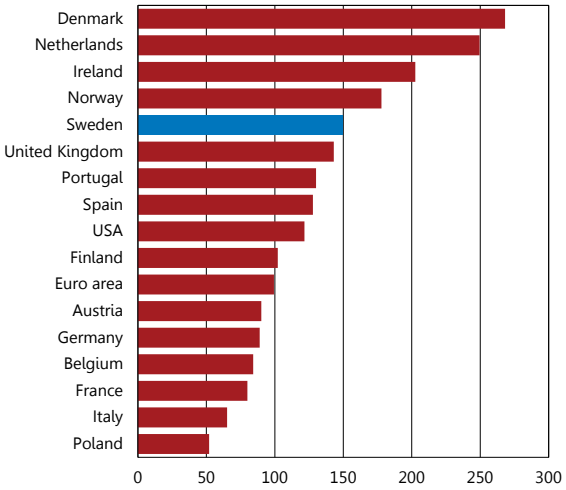


Note. Refers to Swedish monetary financial institutions (MFI), which means that the foreign subsidiaries of Swedish banks are not included. Foreign market funding is reduced by what is assumed to be swapped for Swedish kronor.

Sources: Statistics Sweden and the Riksbank

[79] The market participants deem these indirect consequences to be greater and more serious than the direct consequences. See *Market participants' views on risks and the functioning of the Swedish fixed income and foreign exchange markets*, Sveriges Riksbank, 2012.
[80] See *The Swedish mortgage market*, March 2012, Finansinspektionen.

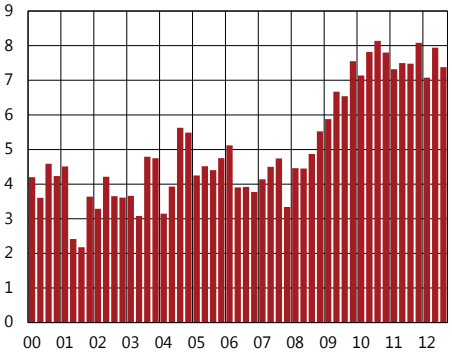
Chart 5:6 Household debt
December 2010, per cent of disposable income



Note. All data from Eurostat, except data on USA. When Eurostat calculates the debt ratio, disposable income is adjusted for changes in households' savings in pension schemes. This means that the debt ratio for Sweden in this chart is lower than that referred to in other parts of the report.

Sources: Eurostat, Federal Reserve and Bureau of Economic Analysis

Chart 5:7 The lowest Tier 1 capital ratio for a major Swedish bank after payment default by another major Swedish bank
Per cent



Note. The major bank with the lowest Tier 1 capital ratio is not necessarily the same bank on every occasion. The Tier 1 capital ratios are calculated in accordance with Basel II transitional rules.

Source: The Riksbank

The Swedish households are currently more in debt than households in many of the countries that have suffered serious economic crises in recent years as a result of substantial falls in house prices (see Chart 5:6). The Swedish housing market lacks several of the features that contributed to the housing crises in Ireland or the United States, but it cannot be ruled out that there would be a negative impact on the Swedish economy if there was a substantial fall in house prices. Falling house prices could even undermine the Swedish banks' access to market funding. The demand for covered bonds may decline, and other funding sources could become more expensive if investors in general want to reduce their exposures to the Swedish banking sector.

Stress tests of the banks' resilience

COUNTERPARTY EXPOSURES

The major Swedish banks' central role in the financial system means that they have large loans and commitments to each other, to other financial agents, and to individual firms. These are known as counterparty exposures. This entails a risk that problems in one bank can spread to another. If, for example, a bank has to suspend payments, this can lead to significant losses for that bank's counterparties. The banks can, however, reduce contagion risks by limiting their counterparty exposures and requiring collateral for their loans. To assess the risk of contagion the Riksbank investigates how much each major bank's Tier 1 capital ratio would decrease if another major bank were to default on its payments. The test is based on data of the major banks' fifteen largest counterparty exposures, which the Riksbank compiles every quarter.[81]

The Riksbank's tests show that the direct contagion risk via counterparty exposures in the Swedish banking system has not changed since the previous stability report. Given the assumptions in the tests, no bank would have a Tier 1 capital ratio below seven per cent after another major Swedish bank had defaulted on its payments (see Chart 5:7). The improvement that has taken place over the long term is mainly due to that the banks have increased their capital and that their largest exposures are not as large now as in the period before 2008. However, the stress test is a static test that only examines the consequences of an isolated event. It thus does not take into account the fact that indirect contagion risks can arise in the form of funding difficulties for other banks, if a Swedish bank were to default on payments.

[81] See also "The Riksbank's counterparty data" in the *Financial Stability Report 2008:2*, Sveriges Riksbank.

STRESS TEST OF THE BANKS' RESILIENCE TO INCREASED LOAN LOSSES

The macroeconomic scenario in the stress test reflects significantly weaker development than in the main scenario. The scenario takes place during the period 2013–2015 and should be seen as a possible development if the euro crisis deepens further and severely weakens economic activity. This could in turn lead to that one or more of the risks identified earlier in this chapter materialise with major negative consequences for the countries where the Swedish banks operate. These assumptions form the basis for the Riksbank's model estimates and assessments of the banks' loans losses and capital adequacy (see Table 5:4 and Table 5:5).[82] Chart 5:8, Chart 5:9, Chart 5:10 and Table 5:2 and Table 5:3 describe how GDP, expected default rate, interest rates, loan losses and capital ratios develop in the stressed scenario. Total loans losses for the major Swedish banks amount to SEK 255 billion.

Table 5:2 GDP in the stress test (main scenario)

Annual percentage change

	2013	2014	2015
Sweden	0.1 (1.8)	-2.5 (2.8)	-2.7 (2.7)
Other Nordic countries	-2.8 (1.4)	-3.5 (1.9)	-1.6 (2.0)
Baltic countries	-0.8 (3.2)	-6.4 (3.6)	-6.0 (3.8)

Note. Other Nordic countries refers to Denmark, Finland and Norway

Source: The Riksbank

Table 5:3 Interest-rate increase in the stress test compared with main scenario

Per cent

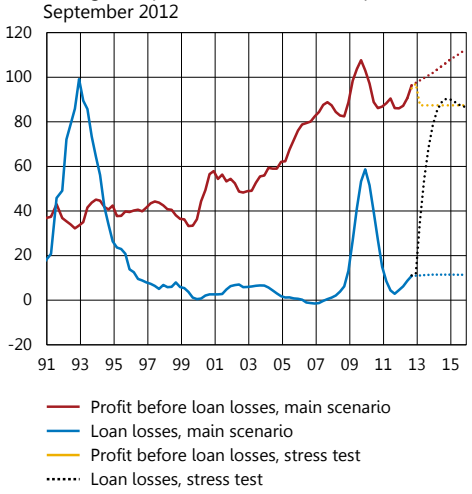
	2013	2014	2015
Sweden	1.2	1.0	0.8
Other Nordic countries	0.8	1.2	0.9
Baltic countries	1.1	1.4	1.1

Note. Other Nordic countries refer to Denmark, Finland and Norway. The stress test assumes that the banks' customers will face a higher interest rate than in the main scenario. This leads to higher loan losses for the banks. To investigate the extent of the impact a higher interest rate would have on loan losses, a model in which loan losses are linked to the rate on a three-month treasury bill is used. The result from the model is then used as a starting point for calculating the loan losses in the stress scenario.

Source: The Riksbank

Chart 5:8 Profit before loan losses and loan losses in the stress test

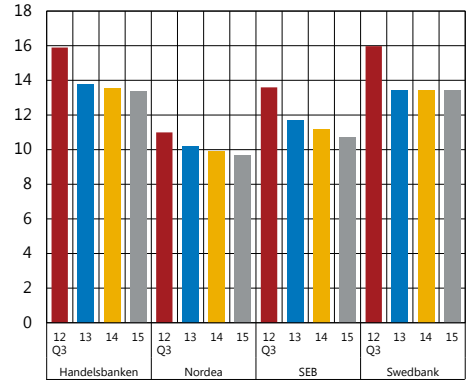
Rolling four quarters, SEK billion, fixed prices, September 2012



Source: The Riksbank

Chart 5:9 CET 1 ratios, initially and in the stress test

Per cent

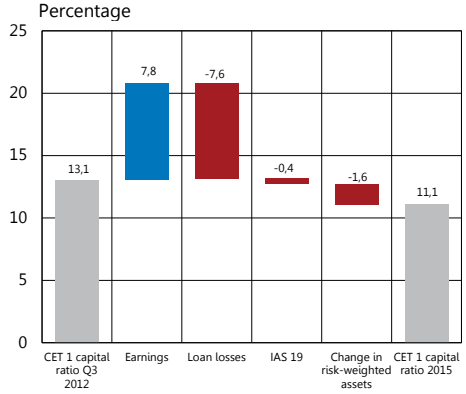


Note. The CET 1 ratios are the Riksbank's own estimates based on full implementation of the Basel III Accord.

Sources: Bank reports and the Riksbank

[82] In order to calculate the banks' capital ratios in the stress test, the Riksbank makes the following assumptions: Profit before loan losses is 10 per cent lower than SME Direkt's consensus estimate for each bank's profit for the full year 2012, a result which is assumed to be constant over the period; the banks' risk-weighted assets increase by 5 per cent per year; the banks effect no dividends or repurchases of own shares; the banks do not attempt to reduce their risk-weighted assets, take in new capital or otherwise change their operations; one of each bank's largest counterparties, measured as amount lent without collateral, defaults on its payments; the average risk weightings for Swedish mortgages are assumed to be higher than at present.

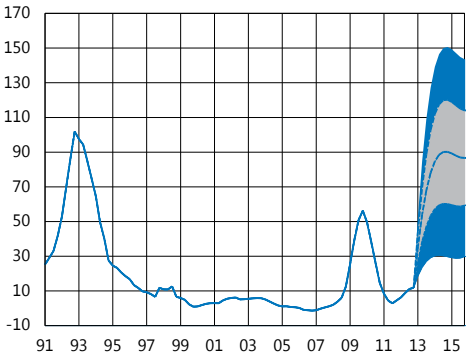
Chart 5:10 Change in CET 1 ratios in the stress test
Percentage



Note. Average of the four major banks according to Basel III. The CET 1 capital ratios are the Riksbank's own estimates based on full implementation of the Basel III Accord. IAS 19 entails changed accounting principles for the banks' pension liabilities.

Source: The Riksbank

Chart 5:11 The major banks' loan losses in the stress test
Rolling four quarters, SEK billion, fixed prices, September 2012



Note. The broken line refers to the Riksbank's estimate of the banks' expected loan losses given the macroeconomic scenario I the stress test. The grey and blue fields represent 75 per cent and 95 per cent uncertainty intervals. The uncertainty interval is calculated on the basis of uncertainty in the estimated parameters on which the calculations in the stress test are based.

Sources: Bank reports and the Riksbank

Table 5:4 Loan losses in the stress test

Percentage of total lending for respective borrower categories and corresponding countries

		2013	2014	2015	Total amount
Sweden	Non-financial companies	2.2	2.5	2.4	2.4
	Property companies	1.0	1.3	1.3	1.2
	Financial companies	0.4	0.4	0.3	0.4
	Households	0.3	0.3	0.3	0.3
Sweden total		0.8	0.9	0.9	0.9
Other Nordic countries		1.3	1.4	1.3	1.3
Baltic countries		2.2	2.7	2.6	2.5
Other countries		1.5	1.6	1.5	1.6
Total		1.1	1.2	1.2	1.2
Total loan losses, SEK billion		**78**	**90**	**87**	**255**

In the stress test, the banks' total loan losses during the period 2013–2015 amount to around SEK 255 billion (see Table 5:4). However, the result of the stress test is uncertain and only reflects the expected outcome given the empirical relations observed to date. Historical experience shows that empirical relations that apply in good times are not necessarily valid in periods of crisis. One way to illustrate this is to perform a simple sensitivity analysis in which the effect of the macroeconomic scenario on loan losses is greater than the historically estimated relation. Chart 5:11 illustrates the major Swedish banks' loan losses on an annual basis, together with a calculated uncertainty interval. If the losses were to be so high that they come into the upper blue part of the uncertainty interval, the losses in the stress scenario would amount to SEK 421 billion during the period 2013–2015.

The banks' access to market funding may be reduced if loan losses rise sharply. Even if loan losses in the test do not lead to any major decrease in the banks' CET 1 capital ratios, their earnings will fall drastically compared with the main scenario, which increases the risk of a downgrading of their credit ratings. A lower credit rating may in turn mean that certain investor categories can no longer buy a bank's securities because they are only allowed to invest in securities with a higher rating.

Table 5:5 Profits and capital ratios in the stress test

SEK billion and per cent

	Handelsbanken			Nordea			SEB			Swedbank		
	2013	**2014**	**2015**	**2013**	**2014**	**2015**	**2013**	**2014**	**2015**	**2013**	**2014**	**2015**
Profits before loan losses	17.2	17.2	17.2	38.7	38.7	38.7	14.8	14.8	14.8	16.7	16.7	16.7
Loan losses	-15.4	-17.4	-16.9	-36.4	-40.1	-38.6	-14.3	-17.5	-16.6	-12.0	-15.2	-14.6
Profits after loan losses	1.8	-0.2	0.3	2.3	-1.4	0.1	0.5	-2.7	-1.8	4.7	1.5	2.1
Taxes	-0.5	0	-0.1	-0.6	0	0	-0.1	0	0	-1.2	-0.4	-0.5
Profits after tax	1.3	-0.2	0.2	1.7	-1.4	0.1	0.3	-2.7	-1.8	3.5	1.1	1.6
Core Tier 1 capital at start of year (Basel II)	86	87	87	181	183	181	91	91	88	79	82	83
Core Tier 1 capital at end of year (Basel II)	87	87	87	183	181	182	91	88	87	82	83	85
Risk-weighted assets at year end (Basel II)	510	514	518	1 625	1 655	1 689	618	626	636	500	506	513
Core Tier 1 capital ratio at year end (Basel II)	17.1%	16.9%	16.8%	11.3%	11.0%	10.7%	14.7%	14.1%	13.6%	16.4%	16.5%	16.5%
CET 1 capital ratio (under Basel III)	13.8%	13.5%	13.4%	10.2%	9.9%	9.7%	11.7%	11.2%	10.7%	13.4%	13.4%	13.4%
CET 1 capital / assets on and off the balance sheet (Basel III)	3.0%	3.0%	3.0%	3.3%	3.3%	3.3%	3.4%	3.2%	3.2%	3.9%	3.9%	4.0%

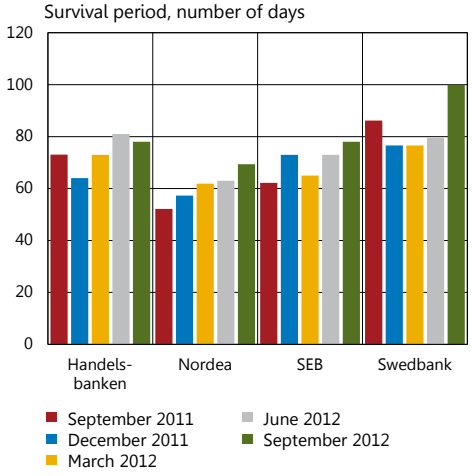
Note 1. The starting values of the banks' capital and risk-weighted assets are based on the banks' reported balances for the third quarter 2012. Profits before loan losses are 10 per cent lower than SME Direkt's consensus estimate for each bank's earnings for the whole year 2012, this result is assumed to be constant during the period.

Note 2. Each bank's loan losses arising from the expected default of a major counterparty have been split over 2014 and 2015.

Note 3. Equity has been adjusted for 2013 for planned changes in IAS 19, compensation to employees. Any deficit in the banks' pension liabilities will have a negative impact on the banks' capital. The values have been taken from the banks' reports.

Source: The Riksbank

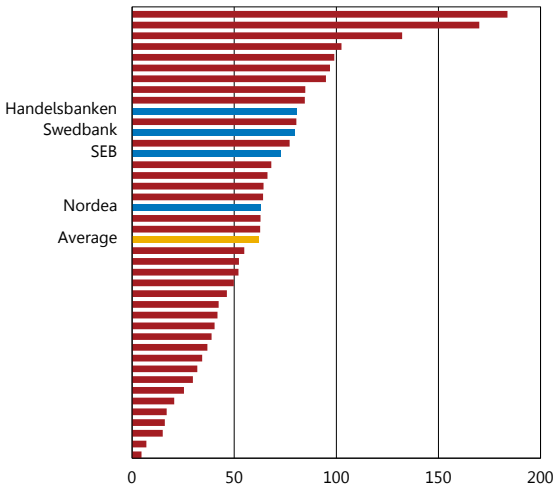
Chart 5:12 The Riksbank's short-term liquidity measure
Survival period, number of days



Note. The Riksbank's short term liquidity measure is volatile and can vary over the year. The measure can be affected by factors such as bond maturities.

Sources: Liquidatum and the Riksbank

Chart 5:13 The Riksbank's short-term liquidity measure
June 2012, survival period, number of days



Note. The Swedish major banks and 33 European banks. The measure for some of the banks in the comparison group was calculated on the basis of data from December 2011.

Sources: Liquidatum and the Riksbank

STRESS TEST OF THE LIQUIDITY IN THE SWEDISH BANKS

The liquidity stress test used by the Riksbank is based on public data to enable comparison with other European banks. [83] This means that the test is not as detailed as one would wish in all respects. For example, the test does not distinguish between different liquidity risks in domestic and foreign currencies, a factor that may be of great importance in the situation of a crisis.

The Riksbank's short-term liquidity measure – stress test of the liquidity buffers

The Riksbank's short-term liquidity measure tests the banks' ability to handle liquidity problems that may arise in the short term. The measure views the banks' liquidity buffers in relation to an estimated cash outflow. Using the simplified assumption that the stressed outflow is evenly distributed over the period, the measure shows how many days the banks' liquidity buffers can cope with the outflow.

The major Swedish banks continue to improve their resilience to short-term liquidity risks (see Chart 5:12). The same improvement is also reflected in the average LCR measure that the banks report to Finansinspektionen. The improvement is mainly due to the banks having increased their liquidity buffers. The short-term liquidity risk is lower in Swedish banks than in many other European banks when measured using the Riksbank's short-term measure (see Chart 5:13). The main reason for this is that the Swedish banks have relatively large liquidity buffers compared with many European banks.

The European banks do not publish as detailed information about their liquidity buffers as the Swedish banks. To be able to calculate the banks' liquidity buffers, the Riksbank therefore uses a method where liquid assets are read from the banks' balance sheets, both the European banks and the Swedish banks. Using this method, the liquidity buffers in the Riksbank's liquidity measure can also include securities that according to the Basel Committee do not qualify as liquid assets. As a conservative assumption the Riksbank therefore decrease the calculated liquidity buffers by 50 per cent of all banks. However, this means that banks with a large proportion of highly-liquid assets, such as cash, central bank deposits and government securities (see Table 5:6 for a breakdown for the Swedish banks) are at a disadvantage.

[83] For more information on the method and data used, see "Method for stress testing the banks' liquidity risks", *Financial Stability Report 2010:2*, Sveriges Riksbank.

Table 5:6 Distribution of major banks' securities holding

September 2012, per cent

	Handelsbanken	Nordea	SEB	Swedbank
Cash, central bank deposits and government securities	80	45	54	69
Covered bonds	11	37	17	26
Other liquid assets	9	18	29	5

Note. The distribution between the different types of asset is taken from the banks' balance sheets. This distribution is thus not in line with the reporting standard for liquidity buffers used by the Swedish Bankers' Association.

Sources: Liquidatum and the Riksbank

The Riksbank's structural liquidity measure – stable funding in relation to illiquid assets

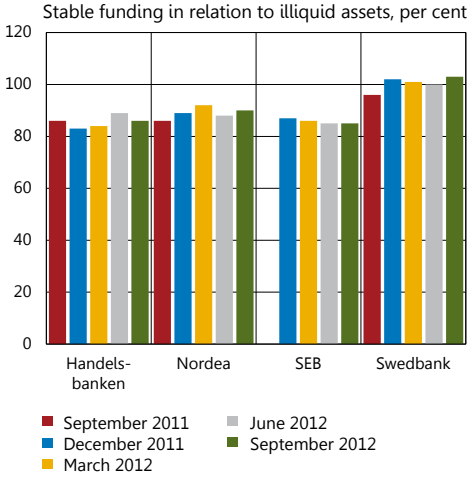
The Riksbank's structural liquidity measure examines the banks' ability to manage a stressed situation that persists over one year. This sets their stable funding in relation to their illiquid assets.

The positive trend for the major Swedish banks' structural measure has stalled (see Chart 5:14). This is also reflected in the average NSFR measure that the banks report to Finansinspektionen. In the longer term, however, the structural liquidity risk has decreased among the major Swedish banks. One of the reasons for this is that the banks have extended the maturity of their funding via covered bonds and have thus increased the share of stable funding.

However, the structural liquidity risk continues to be greater in the major Swedish banks than in other European banks (see Chart 5:15). The Swedish banks have a smaller share of deposits than many European banks. Moreover, they use a larger proportion of short-term wholesale funding (see Chart 5:16). This means that the banks fund a relatively large part of their assets with the help of securities with a remaining maturity of less than one year.[84, 85]

Swedish banks thus have good resilience to liquidity stress in the short term but worse resilience in the long term compared with European banks (see Chart 5:17). In summary, the major Swedish banks' short-term liquidity measures are generally better and their structural liquidity measures are generally worse in comparison with other European banks.

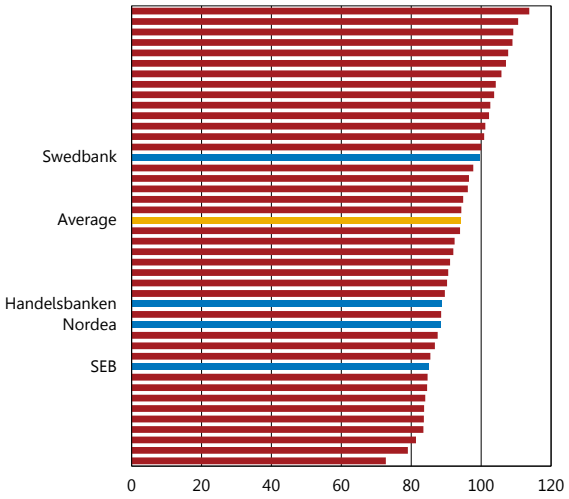
Chart 5:14 The Riksbank's structural liquidity measure
Stable funding in relation to illiquid assets, per cent



Note. SEB has not published sufficient information on maturities to be able to calculate the structural measure for all measurement points.

Sources: Liquidatum and the Riksbank

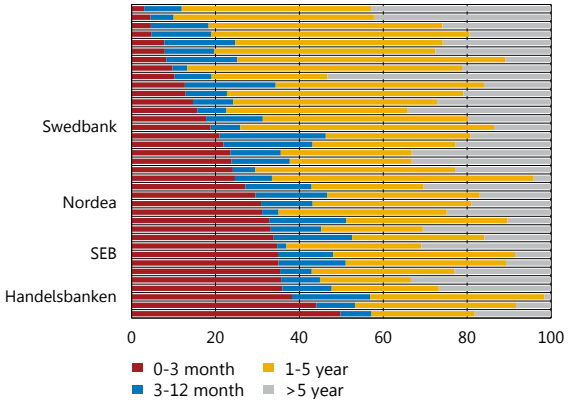
Chart 5:15 The Riksbank's structural liquidity measure
June 2012, stable funding in relation to illiquid assets, per cent



Note. The Swedish major banks and 36 European banks. The measure for some of the banks in the comparison group was calculated on the basis of data from December 2011.

Sources: Liquidatum and the Riksbank

Chart 5:16 Maturities of the banks' outstanding issued securities
December 2011

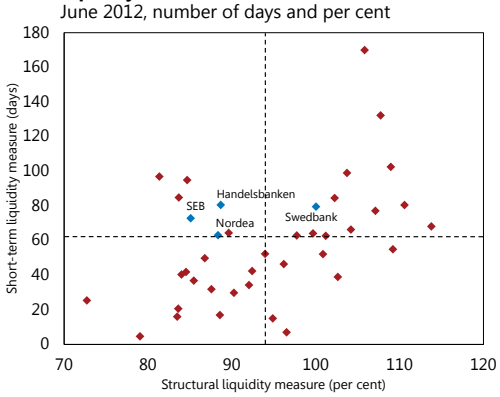


Note. The sample of banks is the same as in Chart 5:15. The horizontal axis shows the distribution of the banks remaining maturity of their issued securities.

Sources: Liquidatum and the Riksbank.

[84] It should be noted that banks use part of the short-term market funding to fund liquid assets that is part of their liquidity buffers.
[85] The different business models employed by Swedish and other European banks may also contribute towards the differences in the outcome of the structural liquidity measure. It is important to remember that many European banks securitise their lending to a greater extent than the Swedish banks. The loans are then excluded from the balance sheets, thereby reducing the proportion of illiquid assets. This kind of securitisation can lead to liquidity risks that are not captured by the Riksbank's liquidity measurement.

Chart 5:17 The Riksbank's short-term and structural liquidity measures
June 2012, number of days and per cent



Note. The vertical axis shows the banks' levels of the Riksbank's short-term liquidity measure. The horizontal axis shows banks' levels of the Riksbank's structural liquidity measure. The banks that have the highest levels in both measures are located top right in the Chart. The broken lines show the average.

Sources: Liquidatum and the Riksbank

The outcome of the Swedish banks' short-term measures is largely explained by the fact that their liquidity buffers are large. The outcome of the structural measure is mainly explained by the large percentage of short-term market funding.

Glossary

Basel II: International regulatory framework for financial institutions that mainly regulates banks' capital adequacy, that is how much capital a bank must hold in relation to the risk it takes. The regulations also stipulate requirements concerning the banks' risk management and the disclosure of public information. Basel II was implemented in Sweden in 2007.

Basel III: International regulations for financial institutions that replace the Basel II regulations on the bank's capital adequacy. Compared to Basel II, Basel III entails increased capital requirements and regulations on capital buffers. Basel III also regulates the bank's liquidity management. The Basel III Accord will be progressively phased in by 2019.

Capital adequacy regulations: Regulations on the capital adequacy of banks. See Basel II and Basel III.

Capital conservation buffer: A requirement for a capital buffer consisting of Common Equity Tier 1. If the buffer is not complete, the bank must retain a portion of its profit to improve its capital ratio. The buffer requirement must be fully implemented by January 2019.

Capital market: Generic term for the stock market, credit market and derivatives market.

CDS premium: Annual cost in basis points for buying a CDS contract.

CDS, Credit Default Swap: A contract between agents on the credit market aimed at transferring the credit risk of an asset, such as a bond, from one agent to another. The buyer of a CDS contract buys credit protection from the seller of the CDS contract by paying a premium over the contract's duration or until a credit event occurs. If a credit event occurs, the buyer transfers the insured asset to the seller in exchange for the nominal value of the asset.

Certificate: A security for trading in the money market, issued for example by a bank or a company with the purpose of borrowing money. Maturity is a maximum of one year.

CET 1, Common Equity Tier 1 Capital: Stricter version of the Core Tier 1 capital, in accordance with the new Basel III accord.

Common Equity Tier 1: Tier 1 capital with a deduction for capital contributions and reserves that may be included in the capital base as Tier 1 capital pursuant to Chapter 3, Article 4 of the Capital Adequacy and Large Exposures (Credit Institutions and Securities Companies) Act (2006:1371).

Core Tier 1 capital ratio: Core Tier 1 capital in relation to risk-weighted assets.

Council for Cooperation on Macroprudential Supervision: A council established by the Riksbank and Finansinspektionen to discuss macroprudential policy issues with the aim of preventing risks to the financial system. The Council meets twice a year.

Covered bond: A bond whose holder has a prioritised claim to a specific asset in the event of a bankruptcy. Covered bonds normally entail a lower credit risk than unsecured bonds, which means that the borrowing costs are lower.

Credit gap: The deviation from the trend in lending by monetary financial institutions to companies and households in relation to GDP.

Credit risk: The risk of a borrower failing to meet commitments.

Credit terms: The terms and conditions laid down in a loan agreement covering, for example, the interest rate and the repayment schedule. Credit terms can also include the maximum loan-to-value ratio allowed for a mortgage.

CRR/CRDIV, Capital Requirements Regulation/Capital Requirements Directive IV: Proposed EU regulation with directives that implement the Basel III Accord. The regulations include stipulations on the banks' capital adequacy, leverage and liquidity.

Currency swap: An agreement to buy or sell a currency at today's rate and then sell or buy back the same currency on a later date at a pre-determined rate.

Debt ratio: Households' total debts as a share of their disposable incomes.

Default rate: The number of bankruptcies divided by the number of companies.

Deleverage: In somewhat simplified terms, this is a matter of reducing leverage and increasing capital adequacy in a bank. Another way of describing the concept is that the share of debt-funded assets is to decrease and the share of equity-funded assets is to increase.

Derivative instrument: Financial instrument that entails agreements on commitments or rights at a given future point in time. The value of a derivative instrument is linked to an underlying asset. The most common derivative instruments are options, futures and swaps.

Direct yield: The difference between rental income and operating and maintenance costs for a property or property company, in relation to the price an investor paid for the property.

Disposable income: The total of all incomes a person or household has at their disposal, minus taxes and fees.

EBA, European Banking Authority: The European Banking Authority establishes joint regulatory and supervisory standards in the EU and conducts stress tests of European banks.

EFSF, European Financial Stability Facility: A temporary crisis management fund set up to safeguard financial stability in Europe by offering financial support to euro area countries. To be replaced by the ESM in 2013.

Encumbered assets: Assets to which certain investors have priority if the borrower should be unable to repay the debt.

Encumbrance ratio: The value of encumbered assets divided by the value of total assets.

ESM, European Stability Mechanism: A permanent international financial institution founded by the euro area countries to safeguard stability in the euro area. The ESM will replace the earlier crisis management funds such as the EFSF.

ESRB, European Systemic Risk Board: The European Systemic Risk Board is responsible for the macroprudential supervision of the financial system within the EU.

Gross margin on mortgage: Difference between a credit institution's lending rate and the cost of borrowing for a mortgage in relation to the amount lent.

Impaired loans: Loans which will probably not be repaid in accordance with the terms of the loan contract. Impaired loans are listed on the balance sheet at their full amount, even if only parts of the loans are covered by collateral.

Interbank market: Financial market where banks trade interest rates and currencies with each other.

Interbank rate: The interest rate on unsecured loans that the banks offer other banks. Stibor (Stockholm Interbank Offered Rate) is usually used to measure the Swedish interbank rate. Stibor is used as a reference for rate setting or pricing of derivative contracts.

Interest rate swap: A bilateral agreement to exchange a specific interest rate in return for another interest rate for a predetermined period according to specific conditions.

Key policy rate: Interest rate that a central bank sets for monetary policy purposes. In Sweden, they are the repo rate and the deposit and lending rates offered to the banking system. The repo rate is the Riksbank's most important policy rate.

LCR, Liquidity Coverage Ratio: Liquidity measurement defined by the Basel Committee that measures a bank's ability to deal with a stressed net outflow of liquidity for 30 days. In simple terms, an LCR of 100 per cent means that a bank's liquidity reserves are adequate to enable the bank to manage an unexpected liquidity outflow for 30 days.

Level 1 assets: Highly-liquid assets, above all securities issued by governments and holdings with central banks. Used when calculating the LCR.

Leverage ratio (adjusted): This measure specifies the banks' equity in relation to their total assets less reverse repos, derivatives and insurance assets.

Liquidity assistance: Measures that a central bank may take to support the ability of one or more financial institutions to meet payment obligations in the short term with the purpose of avoiding a serious disruption in the financial system and strengthening confidence in the payment mechanism.

Liquidity buffer: Funds an institution holds to ensure its short-term debt-servicing ability.

Liquidity risk: The risk of not being able to meet payment commitments due to a lack of liquidity. Liquidity risk in a financial instrument means that an investment cannot be immediately liquidated at all or without falling sharply in value.

Liquidity: Measure of the ability of a company or organisation to meet its payment obligations in the short term. Can also describe how quickly it is possible to convert an asset into money.

Loan-to-value ratio: A borrower's debt in relation to the market value of the collateral for the loan. For example, a household's loan-to-value ratio for its home corresponds to the household's debt collateralised by the home divided by the market value of the home.

LTRO, Long-term Refinancing Operation: A refinancing programme in which the ECB lends capital at longer maturities to banks in the EU. Maturities are 3, 6, 12 and 36 months.

Mortgage cap: Finansinspektionen's general guideline for a maximum loan-to-value ratio of 85 per cent of a property's value. It only applies to new loans.

Net commission income: Income less cost of financial services sold (apart from interest), for example services related to payments, share trading, asset management and card operations.

Net interest income: Interest income from lending less interest expenditure for funding and deposits.

NSFR, Net Stable Funding Ratio: Liquidity measurement defined by the Basel Committee. The measurement puts a bank's stable funding in relation to its illiquid assets in a stress scenario that covers a period of one year.

OMT, Outright Monetary Transactions: The ECB's new programme for rescue purchases of government bonds aimed at protecting the monetary policy transmission mechanism and the common monetary policy of the euro area countries. Unlimited purchases may be made of government bonds with maturities of between 1 and 3 years. One condition is that the countries concerned have full-scale loan programmes or preventive programmes and comply with their terms.

Provisions: Provisions for probable loan losses.

Recoveries: Previous quarters' realised loan losses that are reversed.

Repo: A financial instrument resembling a short-term loan. The participant receiving the money (the seller) transfers the security to the purchaser. At the same time, the seller undertakes to repurchase the security from the purchaser, at a predetermined date, for a slightly larger sum of money. The difference between the sale and the repurchase sums is equivalent to the interest rate on a loan.

Reversals: Previous quarters' provisions for probable loan losses that are reversed.

Risk premium: The additional return an investor requires as compensation for an additional risk.

Risk weight: In simplified terms, to calculate a bank's risk-weighted assets, the amount lent is multiplied by a risk weight. The risk weights are determined on the basis of how likely it is that the borrower will be unable to fulfil its loan commitment and thus varies from borrower to borrower – a high risk weight implies a greater risk than a low risk weight.

Risk-weighted assets: Assets recorded in the balance sheet and off-balance sheet commitments valued by credit, market and operational risk in accordance with the capital adequacy regulations (see Basel II and Basel III).

Securitisation: A financing process whereby a number of loans (for example mortgages or credit card loans) are bundled together and sold on to a company created specifically for the purpose and financed by issuing securities in the market.

Stibor: see Interbank rate.

Systemically important: An actor, market or part of the financial infrastructure is regarded as being systemically important if problems that arise there could lead to disruptions in the financial system that would result in potentially large costs to society.

Unsecured bonds: A bond whose holder does not have a prioritised claim to specific asset in the event of a bankruptcy. Unsecured bonds normally entail a higher credit risk than covered bonds, which means that the termination costs are higher.

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