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SVERIGES RIKSBANK

Swedish market participants' views of risks and the functioning of the Swedish fixed-income and foreign exchange markets

RISK SURVEY AUTUMN 2011

Market participants' views of risks and the functioning of the Swedish fixed-income and foreign exchange markets[1]

The results of the Riksbank's risk survey that was conducted in October 2011 show that the largest risk factor facing the Swedish financial system is that some euro area country might not be able to meet its financial obligations as a result of insufficient public finances. Increased volatility and, in some cases, a deterioration in liquidity has meant that the market participants' propensity to take risk has decreased over the past six months. The market participants consider liquidity problems to be the most difficult risk for their own institutions to manage. The rising interest rates in recent months are by several market participants considered to be a result of increased credit risk rather than liquidity risk. [2]

Market participants' view of risks that can affect the Swedish financial system

SOVEREIGN DEBT PROBLEMS AND INTERNATIONAL POLITICAL PROCESSES – PRIMARY RISKS TO THE SWEDISH FINANCIAL SYSTEM[3]

On the whole, the risks are considered to have increased since the previous risk survey six months ago.[4] The risks that primarily are considered to have increased are those related to sovereign debt problems, political processes and measures in other countries and the recovery in the world's leading economies.[5] The market participants consider it to be most probable that a country will not be able to fulfil its financial commitments due to insufficient public finances. This risk factor is also considered to have serious consequences for the Swedish financial system. According to the participants, sovereign debt problems in the euro area in particular are the drivers behind this risk. It is believed that the banking system will be facing a critical point if funding costs continue to increase at the same time as the economy would enter a recession. Another risk factor is the liquidity in the financial markets. However, some consider credit risk to be a more important risk factor than liquidity risk on the market at this point in time.

Risks related to political processes and measures in other countries can be linked to the sovereign debt problems. This risk factor was given high ratings for both probability and potential consequences. Several participants say this is due to the fact that the market situation is

[1] With effect from spring 2008 the Riksbank has sent out a risk questionnaire twice a year to participants in the Swedish fixed-income and foreign exchange markets. The purpose of the survey is to obtain an overall view of risk in the markets, and to build up an understanding of the participants' views of the market's functioning. This report describes the results of the Riksbank's risk survey, which respondents completed between 5 and 23 October 2011. The Riksbank commissioned survey company Markör to send out the questionnaires. The risk survey supplements the annual discussions the Riksbank has with its monetary and foreign exchange policy counterparties on developments in the financial markets, and the regular contacts with market participants. The autumn 2011 survey was sent to 76 participants in the Swedish fixed-income and foreign exchange markets. The respondents include the Riksbank's monetary and foreign exchange policy counterparties (market makers) and active participants in these markets, both investors and borrowers. The response frequency was 80 per cent.
[2] The phrase "the past six months" refers to the period April/May 2011 to October 2011.
[3] The market participants were asked to evaluate a number of risk factors and state both the probability that each risk factor would be realised within six to twelve months and the consequences these risk factors would have on the Swedish financial system should they be realised. The participants were also asked to assess how each probability had changed since the last risk survey, which was conducted in April/beginning of May 2011.
[4] The previous risk survey referred to the period October/November 2010 to April/May 2011.
[5] Because the question was adjusted slightly, the answers from the autumn survey are not perfectly comparable to the answers from the spring survey. The adjustments are that the risk factors were formulated differently and that a distinction was made between probability and consequence. Another adjustment was that a new risk factor, "the world's leading economies have a protracted economic recovery", was added.

dependent on the political decisions made, for example, in the euro area with regard to the sovereign debt crisis. At the same time, some participants say that there does not appear to be much more space in terms of fiscal and monetary policy in which politicians can manoeuvre to fend off financial crises.

Six months ago, global imbalances and regulations were considered to be the greatest risk factors. These risk factors are still given high ratings. However, risks related to the economic development in the Baltic countries are relatively small, as is the risk for a sharp fall in house prices in Sweden.

Arrows indicating the change in probability since the previous risk survey:

↑ ↗ → ↘ ↓

Colour-coding for the scale of 1 to 8:

Table 1: Market participants' rating of risks affecting the Swedish financial system that were identified in the previous risk survey*

Risk factors	Change in probability	Probability (1-8)	Consequences (1-8)
A country does not succeed in fulfilling its financial commitments as a result of weak public finances	↑	6.6	6.1
Political processes and measures in the world	↗	6.0	5.6
Global imbalances, i.e. that large surpluses of capital are built up in some parts of the world while large capital deficits are built up in other parts.	↗	5.8	5.3
The world's leading economies have a protracted economic recovery	↗	5.7	5.5
Negative consequences of new regulations within the financial sector	↗	5.7	5.5
The credit risk of your institution's counterparties rises	↗	5.5	5.2
The liquidity situation, in terms of poorer depth and pricing of financial instruments	↗	5.3	5.7
A significant fall in housing prices in Sweden	↗	4.5	5.0
The funding cost of your institution rises	↗	4.4	4.4
The liquidity situation, in terms of a deterioration in your financial institution's access to liduidity/funding	↗	4.1	4.9
The indebtedness of Swedish households rises	→	4.0	4.5
The economic developments in the Baltic countries	→	3.9	4.0

*The risk categories are based on responses from the risk survey conducted in the spring of 2011.

REGULATIONS AND MACROECONOMIC RISK FACTORS ARE ALSO CONSIDERED TO BE SIGNIFICANT

In addition to the risk factors listed in Table 1, several market participants believe that some of the regulations in the financial sector, for example the Basel regulations, risk leading to a decrease in lending in the banking system. If such a development were to be combined with a large future supply of both corporate bonds and covered bonds, the effects, according to the participants, could be particularly large. The market participants say that it may become more expensive and potentially more difficult for companies and households to borrow money. Also the proposed transparency regulations in MiFID[6] and the proposed regulations on the central clearing of securities are considered to potentially impair the functioning of the market.

Since the previous risk survey, Swedish long term bond yields have fallen. The falling long-term bond yields are considered to cause risks since this decline could mean that life insurance companies must decrease the risk they take in their investments. If this were to happen, some of the participants believe that in the long run this could affect the distribution of capital within the economy as a whole. From a global perspective, some of the participants indicate that a recession in China could have negative consequences for the global economy. A political deadlock in the United States is also considered to be a risky scenario since this could lead to the country not being able to pay off its debts as planned.

LIQUIDITY PROBLEMS ARE JUDGED TO BE THE MOST DIFFICULT RISK FOR THE INSTITUTIONS TO MANAGE

A deterioration in the liquidity of the financial markets is considered to be the most difficult risk factor for the market participants' own institutions to manage (Table 2).[7] Over half of the participants rate liquidity and/or the access to liquidity for their own institution to be the largest risk. The majority of the participants are dependent on well-functioning and liquid financial markets from different perspectives. Borrowers, such as banks, need to be able to acquire capital, while investors, which are often customers of the banks, need to be able to adapt their asset portfolios by selling or buying assets on the market. Both borrowers and investors also need liquid markets where they can manage their risks. For market makers, this liquidity is important if they are to be able to provide services to their customers at reasonable prices. Poor liquidity can force market makers to carry a larger risk on their balance sheets than they would prefer. When liquidity deteriorates, market makers therefore require greater compensation for providing liquidity to their customers, which means that it becomes more expensive to conduct transactions. From this perspective, poor liquidity has a negative impact on the entire financial system.

[6] The Markets in Financial Instruments Directive (MiFID) is a Directive implemented by the EU Commission in 2007 that regulates financial markets.
[7] The respondents were allowed to list three risk factors that would be most difficult for their institutions to manage.

Table 2: Risks to the Swedish financial system that are most difficult for the institutions to manage

Risk factor	Percentage of respondents
The liquidity situation, in terms of a worsening of depth and pricing of financial instruments	58%
The liquidity situation, in terms of a worsening of your financial institution's access to liduidity/financing	55%
Some country does not success in fulfilling it's financial commitments as a result of weak public finances	39%
Negative consequences of new regulations within the financial sector	35%
The world's leading economies have a protracted economic recovery	26%
The credit risk of your institution's counterparties rise	24%
Political processes and measures in the world	23%
The financing cost of your institution rises	15%
A significant decline in housing prices in Sweden	11%
Global imbalances, i.e. that large surpluses of capital are built up in some parts of the world while large capital deficits are built up in other parts.	3%
The economic development in the Baltic countries	3%
Significant fall in long term bond yields	2%
The funding cost does not fall despite a recession	2%
The indebtedness of the Swedish households rises	0%

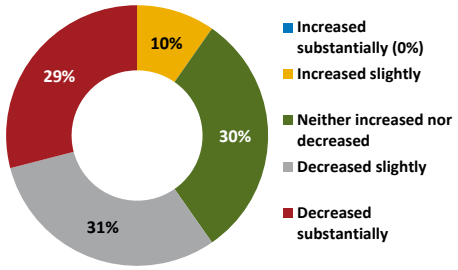
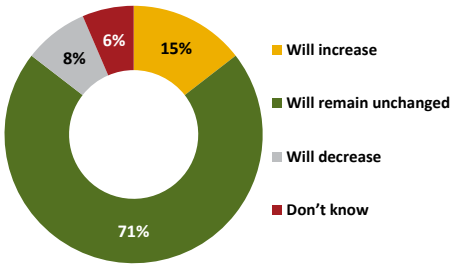
The risk categories are based on responses from the risk survey conducted in the spring of 2011. The table specifies the percentage of respondents who mentioned each risk. The table also contains two risk factors other than those in table 1, added by the participants.

Propensity to take risk on the Swedish fixed-income and foreign exchange markets

DECREASED PROPENSITY TO TAKE RISK AMONG MARKET PARTICIPANTS

As a result of the increased uncertainty and volatility, the propensity to take risk has decreased for 60 per cent of the market participants over the past six months. This share is the highest among fixed-income market participants (82 per cent). A majority of the respondents (71 per cent) believe that their propensity to take risk will remain unchanged over the coming six months. However, more participants believe that their propensity will increase (15 per cent) than that it will decrease (8 per cent).

The answers from previous risk surveys have shown that the participants' propensity to take risk has increased since the beginning of the financial crisis in 2009. However, over the past six months it has increased for only 10 per cent of the participants, which is significantly less than in the previous survey (39 per cent). This result is somewhat in line, though, with the share of participants who in the spring answered that they believed their propensity to take risk would increase over the next six months (15 per cent).

Figure 1. How has your propensity to take risk changed compared to six months ago?	Figure 2. How do you foresee your propensity to take risk over the coming six months?
	

Market participants' views of the financial markets and future developments

WORSENED CONDITIONS ON THE FINANCIAL MARKETS DURING THE PAST SIX MONTHS

The functioning of the financial markets is considered to have deteriorated over the past six months according to 77 per cent of the market participants. Several participants name the sovereign debt crisis in the euro area and the deterioration in liquidity and increased volatility as the reasons underlying this. Some participants state, however, that the markets have functioned well and liquidity has been satisfactory. The answers still deviate significantly from the answers in the spring survey. Previously, 45 per cent of the participants answered that the markets were functioning better. This share is now only 6 per cent. The difference can be traced to the fact that the previous six-month period was to some extent characterised by uncertainty on the Swedish money market as a result of the Riksbank's extraordinary loans maturing last autumn.

THE UNCERTAINTY ABROAD HAS TO SOME EXTENT SPILLED OVER INTO THE SWEDISH FINANCIAL MARKETS

Many market participants consider the sovereign debt problems in the euro area to be the primary cause behind the increase in volatility, the deterioration in liquidity and the fall in risk-taking on the Swedish financial markets. According to some participants, this has been evident from the wider spread for instruments traded on the Swedish markets. Other participants also mention that counterparty risks as well as funding costs for Swedish banks have increased.

With regard to the situation in the United States, several participants mention that the export-dependent Swedish economy is sensitive to the state of the economy in the United States. Due to the United States' large demand for goods and services, its economic development has a large impact on the level of interest rates around the world.

Despite this dependence, many participants respond that the Swedish financial market is still functioning relatively well compared to many other areas of the world. A few participants emphasise that Swedish banks are significantly more resistant to difficult market conditions than many banks in the euro area.

REGULATIONS ARE EXPECTED TO RESULT IN HIGHER COSTS

The survey contained a question about how new regulation will affect the market participants' businesses. As in previous risk surveys, most of the participants expect that the new regulations will result in increased costs for capital for all actors on the financial markets. Some say that this probably will lead to the banks needing to take larger margins, which in turn means that the cost for the end customer will rise. According to some, this could lead to a decrease in the number of transactions, which in turn could risk a deterioration in liquidity and increased volatility. Several participants also say that the new regulations will mean more administration, such as reporting to authorities. Some speculate that the costs resulting from the regulations could also raise the barriers to entry for new actors, which in turn can lead to less competition.

SOVEREIGN DEBT AND REGULATIONS IN FOCUS IN THE FUTURE

Several market participants believe that the sovereign debt crisis in the euro area and the economic and financial position of both United States and China will be in focus over the next six months. The participants state that these factors have a major impact on the propensity to take risk in the market. Several participants say that the funding situation on the capital markets in general will be in focus. Others argue that the coming financial sector regulations will dominate the information flows on the financial markets. Specific regulations that are mentioned in this context include Basel III, MiFID and rules on the matching of maturities and liquidity requirements.

The functioning of the Swedish fixed-income market[8]

IMPROVED OR UNCHANGED LIQUIDITY IN FIXED-INCOME INSTRUMENTS IN GENERAL

Liquidity on the fixed-income market is judged in general to be unchanged or to have improved during the past six months. There are, however, some exceptions, such as corporate bonds and RIBA futures[9], in which liquidity is believed to have decreased.

The fixed-income market is an important source of funding and liquidity supply for many of the surveyed market participants. Some participants are also active on this market in order to manage their interest rate risk, speculate based on their belief about future interest rate developments or mediate financial instruments to other actors. The liquidity of the fixed-income market is therefore of great significance for the Swedish financial system.

The liquidity of government bonds is judged to be better than that of other instruments on the fixed-income market (Figure 5). The liquidity in the market for treasury bills is still not considered to be adequate (Figure 6). However, previous risk surveys have indicated that liquidity in this market was considered relatively poor even prior to the crisis.[10]

[8] Only participants active either in the Swedish fixed-income market or active in both the fixed-income market and the foreign exchange market have responded to this part of the survey. The figures include only those who have been active in the specific segment.

[9] RIBA futures are a standardised forward that is based on the outcome of the Riksbank's repo rate. The parties undertake to buy or sell an asset on a specified future date at a predetermined price. The contract basis is a fictitious loan, i.e. the underlying loan sums are not transferred. The maturity corresponds to the period between two IMM dates and the contract undergoes final settlement against the average repo rate for the period in question.

[10] This could to a large extent be due to the fact that these securities are by nature "buy and hold". An additional reason for the poor liquidity could be that the supply of treasury bills has declined.

Figure 3. What is your view of liquidity in government bonds over the past six months?

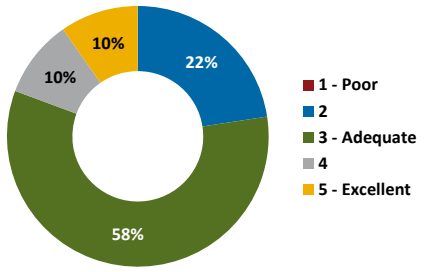
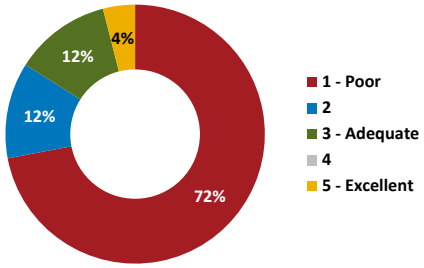


Figure 4. What is your view of liquidity in treasury bills over the past six months?



The liquidity in the markets for Swedish mortgage bonds and mortgage certificates is judged to be approximately the same as in the last survey, i.e. mainly adequate or better. Several participants believe that mortgage securities (mortgage bonds and mortgage certificates) will play a larger role in the fixed-income market in the future. Many participants also say that government securities (government bonds and treasury bills) will play a smaller role.

The liquidity in the market for corporate bonds is judged to have deteriorated slightly. Of the participants, 54 per cent consider the liquidity in this market to be adequate or better, which can be compared to 75 per cent in the last survey.

Figure 5. What is your view of liquidity in Swedish mortgage bonds over the past six months?

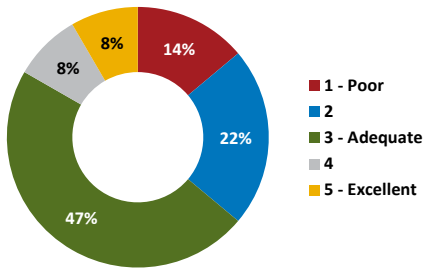


Figure 6. What is your view of liquidity in Swedish mortgage certificates over the past six months?

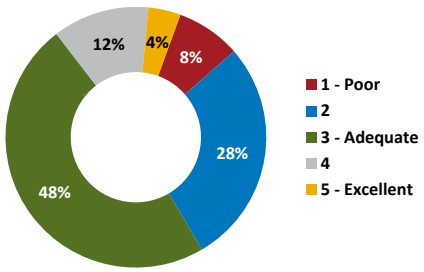
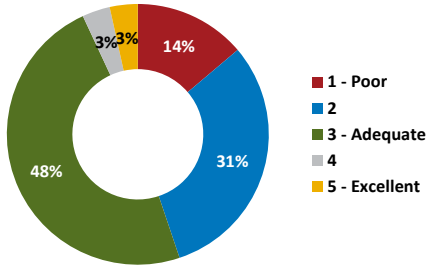


Figure 7. What is your view of liquidity in corporate bonds over the past six months?



The liquidity in the repo market for government securities is judged to have improved slightly over the past six months (Figure 8). Of the participants, 95 per cent consider the liquidity in repos with government securities to be adequate or better, which can be compared to 80 per cent in the last survey. The liquidity in the repo market for Swedish mortgage securities is also considered to be better. Of the participants, 86 per cent consider the liquidity in repos with Swedish mortgage securities to be adequate or better (Figure 9), which can be compared to 57 per cent in the last survey.

Figure 8. What is your view of liquidity in repos with government securities over the past six months?

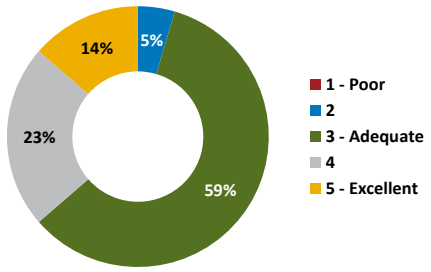
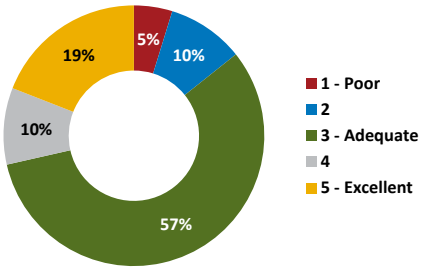


Figure 9. What is your view of liquidity in repos with Swedish mortgage securities over the past six months?



According to the Riksbank's monetary policy counterparties, liquidity in the shortest-term segment of the interbank market, overnight loans (O/N) and loans from tomorrow to the day after tomorrow (T/N), in SEK have been adequate or better over the past six months (Figure 10). This is a large change since the last survey in which 85 per cent of the Riksbank's monetary policy counterparties responded that the liquidity had not been adequate as a result of increased volatility and rising interest rates on the market since October 2010. The liquidity on the market for interest rate swaps is judged to be slightly worse than in the last survey (Figure 11).

Figure 10. What is your view of liquidity in O/N and T/N (in SEK) over the past six months?

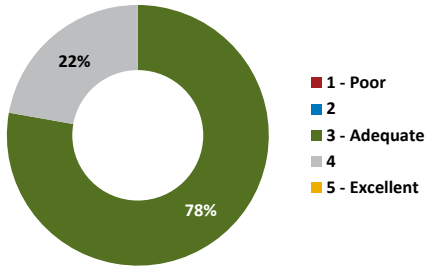
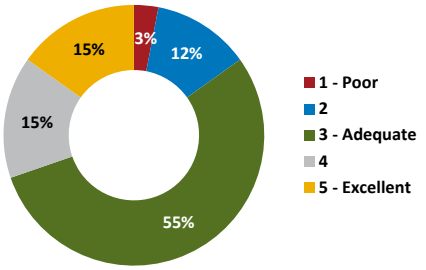


Figure 11. What is your view of liquidity in interest rate swaps (SEK/SEK) over the past six months?



The O/N and T/N statistics are only based on responses from the monetary policy counterparties of the Riksbank.

The majority of the market participants believe the liquidity in STINA swaps and RIBA futures is not adequate (Figures 12 and 13). The liquidity in STINA swaps is also judged to have deteriorated over the past six months since 64 per cent of the participants responded that this liquidity was not adequate, compared to 50 per cent in the last survey. The same applies to the

liquidity in RIBA futures which is judged as inadequate over the past six months by 69 per cent of the participants, compared to 36 per cent in the last survey.

Figure 12. What is your view of liquidity in STINA swaps (in SEK) over the past six months?[11]

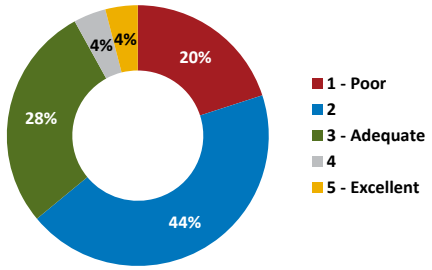
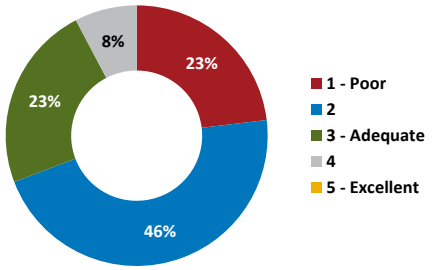


Figure 13. What is your view of liquidity in RIBA futures over the past six months?[12]



The majority of the participants considered the liquidity in cross-currency swaps[13] to be adequate or better (Figures 14 and 15). This is approximately in line with the spring survey.

Figure 14. What is your view of liquidity in cross-currency swaps (EUR/SEK) over the past six months?

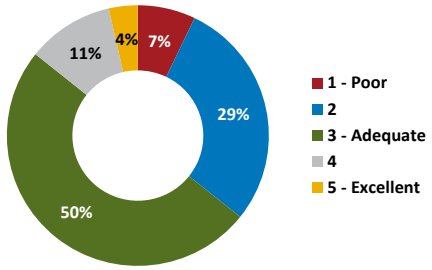
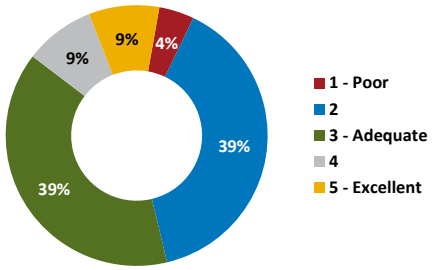


Figure 15. What is your view of liquidity in cross-currency swaps (USD/SEK) over the past six months?



Open questions about the Swedish fixed-income market

DIVIDED VIEW OF PRICING OF STIBOR[14]

Several of the market participants consider STIBOR to be at incorrect levels, which according to some may be due to the fact that the underlying interbank market is small. A few participants say, for example, that STIBOR is significantly higher than the rate they encounter when converting EUR

[11] Includes answers from respondents active on both the fixed-income and the foreign exchange rate markets. STINA stands for STIBOR T/N Average. A STINA contract is an agreement lasting up to a maximum of one year to pay or receive the difference between an agreed fixed rate of interest and a variable overnight rate (STIBOR T/N).
[12] Includes responses from participants active on both the fixed-income and the foreign exchange rate markets.
[13] A cross-currency swap is a derivative with which an market participant can convert an asset or a liability to another currency than it was originally denominated.
[14] STIBOR, or Stockholm Interbank Offered Rate, is an average of Swedish krona deposit rates reported from the six market makers on the interbank market. The reported deposit rates shall correspond to the rates at which they believe they will be able to lend money to an average bank on the Swedish interbank market at different maturities.

or USD to SEK via currency forwards. However, several participants say that STIBOR functions well, which indicates that the market participants have different views.

With regard to the greater difference between the STIBOR and the repo rate since the autumn of 2010, several participants state that the interest rate differential simply reflects the higher funding costs for banks. Some participants consider the increase to be a result of the uncertainty abroad. Others say that credit risk, and not liquidity risk, has been the main driver behind the increased interest rate differential. Some participants believe, however, that the interest rate differential rose in conjunction with the Riksbank's extraordinary loan falling due at the end of 2010.

STILL A ONE-SIDED MARKET IN CROSS-CURRENCY SWAPS

Many market participants consider the liquidity on the market for EUR/SEK and USD/SEK cross-currency swaps to have improved for short-term maturities over the past six months, but that it is still relatively poor for long-term maturities. One problem identified by several participants is the one-sided interest on the market, where demand for SEK via cross-currency swaps is greater than the demand for foreign currencies. Several participants point out that pricing on the market is greatly affected by the transactions that are being carried out, which can result in rapid, temporary price fluctuations. The prices on the market are to a large extent affected by the Swedish mortgage institutions issuing mortgage bonds in foreign currency (mainly EUR) which are then swapped to SEK. The prices are, however, also affected by the general access to liquidity in the market.

WEAK INTEREST IN CENTRAL COUNTERPARTY SETTLEMENT VIA NASDAQ OMX

During 2010, Nasdaq OMX Stockholm introduced a new central counterparty clearing (CCP) on the repo market. So far, trading via the CCP has been relatively limited. Several market participants consider the interest among both banks and their customers to still be weak. For example, one Swedish bank is still not a full member of the CCP yet. Another explanation, according to several participants, is that the administration that is required for CCP settlements costs too much and that Nasdaq OMX Stockholm's prices to use the CCP are too high. Finally, some participants say that bilateral settlement functions well in several markets, which means that it is not apparent how large of a need there is for a CCP.

SEVERAL SIDE EFFECTS OF REDUCING SOVEREIGN DEBT

Recently, the supply of government securities has decreased and according to the Swedish National Debt Office's forecast, the number will continue to fall. Many market participants therefore believe that future demand for government securities will be greater than the supply, which will lead to low yield on government securities. Some participants believe, however, that a reduced supply will also lead to less interest for Swedish government securities, which in turn can lead to less liquidity in general on the Swedish bond market. According to some participants, such a scenario could result in wider spreads on government securities and higher volatility on the repo market for government securities.

One opinion is that the coming capital adequacy regulations (Basel III) risk making it too expensive to hold mortgage and corporate bonds in the liquidity buffer. If this is the case, there is also a risk that the demand for securities would be directed too much toward government securities. Some participants also say that government securities risk becoming a product only for actors who absolutely need them, since they would become expensive and often be held for long periods without being traded. Finally, it is mentioned that a lack of Swedish government

securities could force actors to buy government securities from other countries, which would lead to new, possibly undesirable, counterparty risks.

The functioning of the Swedish foreign exchange market[15]

According to the market participants, the functioning of the foreign exchange market improved over the past six months, although the participants are divided about how the liquidity in different instruments on the foreign exchange market developed.

The foreign exchange market is of considerable importance for the Swedish financial system for a number of reasons. First, all transactions involving foreign currency must go via the foreign exchange market. Second, many of the surveyed market participants manage their foreign exchange risks on the foreign exchange market. Several participants are also active on the foreign exchange market in order to speculate based on their belief about future foreign exchange rate developments or to provide financial instruments for other actors.

The majority of the surveyed participants on the Swedish foreign exchange market consider the market to function adequately or better over the past six months (Figure 16), 82 per cent compared to 76 per cent in the last survey. Almost all of the participants also think that the Swedish foreign exchange market functions adequately or better compared to other countries (Figure 17).

Figure 16. What is your assessment of the functioning of the SEK market over the past six months?

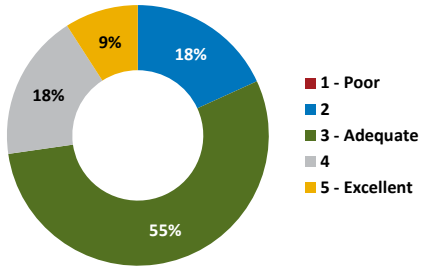
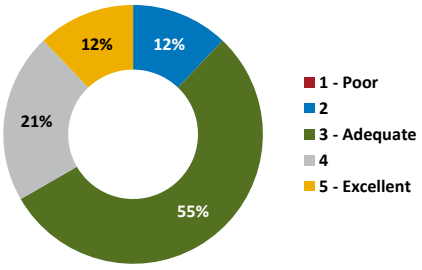


Figure 17. Making an international comparison, what is your assessment of the functioning of the SEK market over the past six months?



The liquidity in instruments on the Swedish foreign exchange market is considered in general to be adequate or better than six months ago, which is shown in Figures 18–22. Compared to the spring survey, the answers give a somewhat divided view of the participant's perception. 22 per cent of the participants consider the liquidity in the spot market to be less than adequate, which can be compared to 9 per cent in the last survey. A larger share of the participants than in the last survey also says that liquidity in foreign exchange options and FRA contracts[16] is less than adequate. On the other hand, a larger share of participants than in the last survey considers the liquidity in O/N and T/N FX swaps[17] to be excellent.

[15] Participants active in the Swedish foreign exchange market and participants active in both the fixed-income market and the foreign exchange market responded to this part of the survey. The figures include only those who have been active in the specific segment.
[16] FRA stands for Forward Rate Agreement. An FRA contract is an agreement to pay or receive the difference between a fixed interest rate agreed at the outset and the interest rate actually prevailing at that future date. .
[17] An FX swap is a financial instrument that makes it possible to convert cash flows in a certain currency to a cash flow in a different currency.

Figure 18. What is your view of liquidity in the spot market (in SEK) over the past six months?

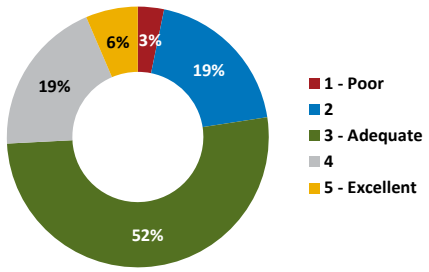


Figure 19. What is your view of liquidity in currency options (in SEK) over the past six months?

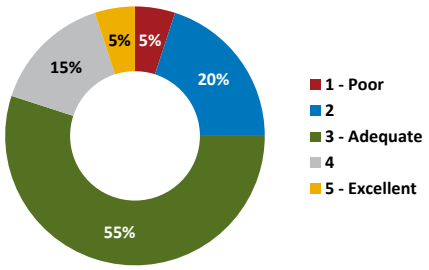


Figure 20. What is your view of liquidity in O/N and T/N swaps (in SEK) over the past six months?

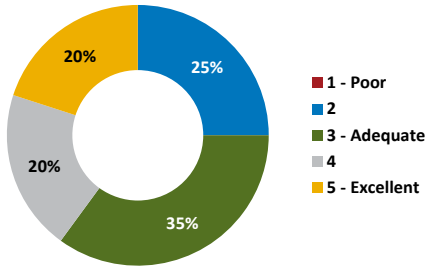


Figure 21. What is your view of liquidity in FRA (in SEK) over the past six months?[18]

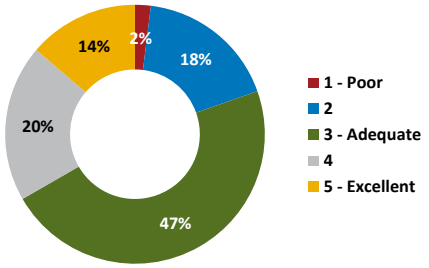
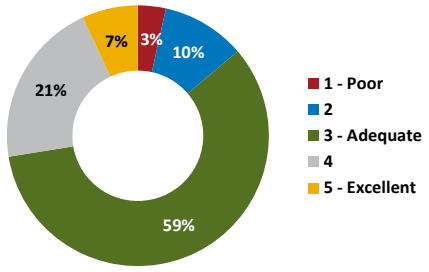


Figure 22. What is your view of liquidity in forwards (in SEK) over the past six months?



[18] Includes responses from market participants active on both the fixed-income and the foreign exchange rate markets.

Open questions about the Swedish foreign exchange market

HIGH VOLATILITY IN THE FOREIGN EXCHANGE MARKET

The market participants consider that volatility in the Swedish currency market has in general been high. Some consider that the differences between buy and sell prices has risen, which indicates poorer liquidity. However, a number of market participants point out that it has been possible to do business at a reasonable cost (and referred to the difference between buy and sell prices). At the same time, some of the participants say that the market has remained accessible and functioned smoothly. One trend mentioned is that trading via electronic platforms is now in principle dominant in the market.

ALGORITHMIC TRADING CHANGES THE WAY THE MARKET FUNCTIONS[19]

The risk survey included a question on how algorithmic trading affects the functioning of the market. Some market participants say that it entails increased risk. For example, that it leads to greater volatility. However, others say that volatility declines, as algorithmic trading supplies the market with liquidity. One problem highlighted by some participants is that the liquidity supplied by algorithmic trading may disappear in times of financial stress. Such a sequence of events could lead to major imbalances between supply and demand on the market, which may be difficult for market makers, for instance, to handle. Finally, some market participants claim that algorithmic trading sometimes controls the market, for instance, by placing short orders. It can be difficult for a human being to absorb the information at the same speed as the automated trader, which makes it difficult to manage risks manually.

[19] Algorithmic trading refers to automated trading where orders and given and executed by computer.

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