

The OTC derivatives market fulfils an important function in the financial system. Consequently, risk management must be good and transparency high in this market. An EU regulation aimed at achieving just this has recently entered into force. Firstly, the regulation entails an improvement of risk management on the market, among other areas through the use of central counterparties. Secondly, it entails an increase in transparency in that it places requirements on the reporting of transactions. It is important for financial stability in Sweden that the Swedish market participants adapt to these new requirements. Consequently, the Riksbank conducted a study in 2012 of how Swedish market players use the OTC derivatives market and how they are preparing for upcoming changes to it. The results of this study are presented in this Economic Commentary.

The derivative market is facing major changes

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The derivative market is a large, global market that fulfils an important function in the financial system. The total global value of derivative contracts' underlying assets amounts to just over USD 600,000 billion¹. This is equivalent to more than 40 times the United States' GDP.

Financial derivatives create possibilities for market participants to manage their risks. Companies can use derivatives (such as forward contracts) to insure themselves against unforeseen fluctuations in an exchange rate or interest rate. The derivatives market thus reduces risks, but, at the same time, also creates risks, such as liquidity risk, market risk and credit risks, including counterparty risks.

During the financial crisis, unease over various risks contributed to great uncertainty. The OTC market², where derivative contracts are traded outside stock exchanges, was particularly problematic. The OTC derivatives market had poor transparency and neither was it regulated to any great extent, which led to great uncertainty regarding what might happen on that market should any participant be impacted by serious problems. The crisis showed that measures needed to be taken on the OTC derivatives market to strengthen financial stability.

Since then, the leaders of the G20 countries have agreed to carry out a number of changes to decrease the risk of future crises.³ These include measures to solve the problems identified on the OTC derivatives market. The G20 leaders' agreement has now resulted in new laws and regulations⁴ that, among other measures, place demands for improved risk management and comprehensive reporting requirements aimed at increased transparency. Due to these demands, in the years ahead, the OTC derivatives market will face great changes to which both the banks and other participants on the derivatives market will have to adjust.

Adaptation to the new requirements is important to improve the resilience of the financial markets and to strengthen Sweden's financial stability. Consequently, in 2012, the Riksbank carried out a study of how Swedish participants use the OTC derivatives market and how they are preparing themselves for the approaching changes there.⁵ This Economic Commentary presents the results of this study. The Riksbank's study has focused on that part of regulation that addresses increased transparency and the handling of counterparty risks through the use of central counterparties.

1. BIS, June 2012.

2. OTC stands for *over the counter*.

3. One agreement was reached in Pittsburgh in 2009 and one in Cannes in 2010.

4. All regulations required to comply with the G20 requirements are not completed as yet. For example, work is still underway among both the EU and international organisations (BIS, FSB) to specify margin requirements for non-central counterparty cleared OTC derivative contracts and capital requirement rules in conjunction with trading in OTC derivatives.

5. The banks included in the Riksbank's study are: Handelsbanken, Landshypotek, Länsförsäkringar Bank, Nordea, SBAB Bank, SEB and Swedbank. Apart from these banks, the Swedish central counterparty, NASDAQ OMX, was also included in the study.

What are derivatives and how do OTC derivatives differ from other derivatives?

A derivative can be described as a financial instrument, the value of which depends on the value of one or more underlying assets. Derivatives are used for two purposes: hedging and speculation. The most common derivatives are forward contracts, swaps and options.⁶ Derivatives are linked to interest rates, exchange rates, equities, commodities or credits.

Much of the trade in derivatives does not take place on a stock exchange in the same way as trading in shares does, for example. Instead, a large part of derivative trading takes place *over the counter* (OTC). OTC means that the parties trading with each other themselves determine the conditions for the derivative contract and how trade shall proceed, unlike when trade takes place on a stock exchange, and the stock exchange sets the conditions.

Swedish banks use the OTC derivatives market to a great extent

The Swedish banks included in the Riksbank's study, hereafter referred to as the Swedish banks, use the OTC derivatives market to a great extent. According to the study, the Swedish banks' turnover in OTC derivatives in 2011 amounted to an average of SEK 600 billion per day⁷. This means that an amount corresponding to Sweden's total GDP is turned over in less than six days. The Swedish banks' trading in OTC derivatives is primarily aimed at hedging.

Interest rate and foreign exchange (FX) derivatives form almost the entire turnover of the OTC derivatives in which the Swedish banks trade (see Chart 1). Trading is fairly evenly divided among both types. This corresponds to global conditions, where interest rate derivatives are the largest category and FX derivatives are the second largest, although the difference in size between interest rate and FX derivatives is significantly greater globally than in Sweden. Apart from interest rate and FX derivatives, the Swedish banks also trade in equity derivatives, commodity derivatives and credit derivatives, but this trade forms less than 1 per cent of their total turnover in OTC derivatives.

Interest rate derivatives are the largest OTC derivative category in Sweden

Interest rate derivatives form the largest category of OTC derivatives in which the Swedish banks trade. The greatest part of these is denominated in Swedish kronor. However, the Swedish banks also conduct comprehensive trading in interest rate derivatives in foreign currencies. This is partly because their customers in Sweden have operations in other countries and therefore wish to trade in contracts in other currencies, and partly because the banks themselves have operations in other countries, meaning that both they and their customers in these countries need to trade in foreign currencies.

Among interest rate derivatives, interest rate forwards⁸ are the most common type of product, followed by interest rate swaps and interest rate options (see Chart 2). The Swedish banks largely trade interest rate derivatives, above all interest rate forwards, to manage their own interest rate risks. These arise, for example, when the banks grant loans with variable interest rates, but pay a fixed interest rate for the funding of these same loans. Trade in interest rate derivatives most frequently takes place with another bank or other financial company as counterparty.

The major banks also trade in interest rate derivatives, particularly interest rate swaps, on their customers' behalf. This trading involves making a large number of small transactions, meaning that, in certain cases, the banks can be counterparty to several hundred customers. These customers are, for example, businesses, property companies and municipalities.

6. Repurchase agreements are occasionally included in the term derivative, but, in this Economic Commentary, repurchase agreements are not included in our definition of derivatives. EU legislation does not define repurchase agreements as derivative instruments (648/2012 EU, Title 1, Article 1, Point 5).

7. This refers to the nominal value of the contract's underlying assets. The nominal amount may differ from the derivative's market value.

8. For the purpose of this study, the category forward contracts also includes futures contracts.

Foreign exchange derivatives are the other major category of derivatives in Sweden

Foreign exchange derivatives are primarily used to manage foreign exchange risk. From an international perspective, trading in FX derivatives by Swedish banks and companies is relatively comprehensive. This is a consequence of Sweden being a small country with its own currency and an export-oriented industrial sector. Approximately one-third of the banks' trade is in contracts in which one currency is Swedish kronor, which means that a large part of trading is in contracts entirely in foreign currencies.

Part of the Swedish banks' turnover in FX derivatives can be explained by the fact that the Swedish banks fund their operations in Sweden with other currencies than Swedish kronor and so use FX derivatives to manage the risks associated with this strategy. The banks fund themselves with foreign currency primarily because they have a relatively large part of their operations in other Nordic countries and the Baltic countries.

Above all, the Swedish banks trade in four different FX derivatives: FX forwards, FX swaps, cross-currency basis swaps⁹, and FX options (see Chart 3). Trade in FX forwards, FX swaps and FX options is largely driven by customer demand. Import and export companies above all trade with derivatives of these types. This is to protect themselves against the FX risks arising when they have income in one currency and expenditure in another. But the banks also trade in forwards and swaps on their own behalf. In contrast, the banks mostly trade in the fourth category of FX derivatives, cross-currency basis swaps, on their own behalf. These derivatives are used to manage FX and interest rate risk when the banks convert funding in one currency to another over a longer period.

Counterparty risk is present on the derivatives market, but it can be reduced in various ways

As we described earlier, derivatives are largely used to manage risks. However, trading in derivatives also creates risks. One such risk is counterparty risk, which is the risk that a party will make a loss due to the other party being unable to meet its commitments, for example due to bankruptcy. In general, the more the value of the underlying assets varies and the longer the maturity of the contract, the more counterparty risk increases.

There are different ways of reducing counterparty risk. One way is by using a central counterparty¹⁰. A central counterparty acts as a counterparty to all buyers and sellers and thereby assumes all counterparty risk. One precondition for a central counterparty to really reduce counterparty risk on the derivatives market is that it, in turn, manages the risks in a safe manner that does not create greater risks. For this to be possible, each user of a central counterparty must provide collateral for every transaction, thereby reducing the risks should one counterparty, for example a bank, enter bankruptcy. Apart from collateral, the central counterparty also has access to other financial resources, partly its own, and partly contributions from its members.

Central counterparty clearing also entails the possibility of netting, which means that debts and claims between two counterparties are offset against each other, thus enabling the decrease of counterparty risk.

Of the Swedish banks' OTC derivatives, the largest part of the interest rate forwards are cleared via a central counterparty, as are equity and commodity forwards. But for the largest part of the OTC derivatives traded by the Swedish banks, no central counterparty is used for clearing.

For the derivative contracts not cleared via a central counterparty, the banks have systems for managing risks in other ways. In the great majority of derivative transactions, the Swedish banks use what is known as netting agreements, which means that debts and claims are offset if one of the counterparties should enter

9. Cross currency basis swaps are also known as CCY swaps.

10. Central counterparty is often abbreviated CCP.

bankruptcy.¹¹ As a complement to netting agreements, the banks often provide each other with collateral for the part of the transaction's value not covered by the netting agreement.

New requirements are influencing the OTC derivatives market

Two of the problems identified on the OTC derivatives market by the G20 countries' leaders are deficiencies in risk management and deficiencies in the transparency of the market. If the market participants' risk management is insufficient and they are thereby unable to manage unforeseen incidents, such problems can easily spread to other market participants as they are often interconnected by various transactions. Moreover, if transparency is poor, it may be difficult to perceive how banks and companies are interconnected and how they can affect each other. This, in turn, makes it difficult to analyse the consequences that problems on the derivatives market may have for financial stability. In addition, as the derivatives market is a very large global market, problems there can create great uncertainty over the risks in the global financial system. The new requirements formulated at the G20 meeting in 2009 are aimed at remedying this. Two of these are:

- Requirements for improved risk management, among other means by using central counterparties

With the aim of improving the management of counterparty risks on the OTC derivatives market, the G20 leaders agreed that all standardised OTC derivative transactions are to be cleared by a central counterparty. Other OTC derivative contracts are to generate higher capital requirements for the banks and are additionally to be covered by stricter requirements for risk management, for example requirements that the banks must exchange collateral with each other.

- Improved transparency with requirements for transaction reporting

Transparency is to be improved by reporting information on OTC derivative transactions to what are known as trade repositories.¹²

Swedish market participants must adapt to the new requirements

Many Swedish banks are active on the OTC derivatives market and are now working to adapt to the new requirements. Swedish banks must adapt to the new EU regulation in this area (EMIR¹³). In addition, banks trading with US counterparties, for example, must also adapt to the US regulations to the extent that these place different requirements than EMIR.

When EMIR is implemented, all standardised OTC derivatives shall be cleared via a central counterparty. It has not been decided as yet exactly which derivatives will be covered by the clearing requirement. A rough estimate made by the Riksbank suggests that 70-80 per cent of the Swedish banks' trading in OTC derivatives is standardised in some way and therefore *may* need to comply with the clearing requirement. In comparison, about 30 per cent of interest rate derivatives and, in principle, no FX derivatives¹⁴ are cleared via a central counterparty at present.

The requirement for central counterparty clearing is thus new, but, as the figures above indicate, the banks already clear certain derivative transactions via a central counterparty. To be able to use a central counterparty, a bank must either be a member of one or use its services via an agent. The choice between membership and an agent is determined, among other factors, by whether the bank can be a member of the central counterparty, which is to say whether it fulfils the requirements placed

11. As a principal rule, the banks use what are known as ISDA master agreements. This means that a bank with both a debt and a claim from a counterparty can offset these in the event of the counterparty defaulting. In the event that a netting agreement is absent, the bank can be forced to pay its debt, even though its claim will not be paid if its counterparty defaults.

12. Transparency is also to be improved by trading as many standardised OTC derivatives as possible on a stock exchange. Under the agreement, trading shall take place on stock exchanges or on an electronic trading platform "when appropriate". It is not appropriate to trade all OTC derivatives on stock exchanges, as this could make the liquidity of the instrument insufficient.

13. EMIR – European Market Infrastructure Regulation, Regulation (EU) no. 648/2012.

14. It is unclear today whether FX derivatives will be subject to central counterparty clearing even if they should be considered to be standardised.

for membership¹⁵. The major Swedish banks¹⁶ are already all members of a central counterparty that clears OTC derivatives. Some of the major banks are members of both the Swedish central counterparty and foreign equivalents. In contrast, the smaller Swedish banks¹⁷ are not members of a central counterparty to such a great extent, which means that this requirement is a greater challenge for them than it is for the larger banks.¹⁸ The Swedish banks are also reviewing their management of counterparty risks for the derivative contracts that will not be cleared via a central counterparty.

A new requirement for all banks concerns detailed transaction reporting to trade repositories. This will require systems support and internal routines to ensure that the correct data is reported in the correct format. In most cases, the larger banks will report themselves. For the slightly smaller banks, it may be easier to fulfil these requirements by engaging an agent to report for them.

The new requirements do not just apply to banks. In Sweden, not only the Swedish banks, but also the Swedish central counterparty NASDAQ OMX, among others, will have to adapt. NASDAQ OMX clears derivatives of various types and is presently licensed as clearing organisation¹⁹ by Finansinspektionen, although it will have to apply for a new license in 2013. All central counterparties in the EU must apply for a new license so as to ensure that, after 2013, there will only be central counterparties in the EU that comply with the requirements of EMIR.

However, it is not just the adaptation of the Swedish banks and the central counterparty to the new requirements that is important for financial stability in Sweden. As Swedish banks also clear OTC derivative transactions via foreign central counterparties, these market players' compliance with the new rules is also important for the situation in Sweden.

As this Economic Commentary has described, adaptation to the new requirements is thus important to improve the resilience of the financial markets and to strengthen financial stability in Sweden. The Swedish banks and the Swedish central counterparty are actively working to adapt to the new requirements on the OTC derivatives market. The adjustment of the Swedish market participants is a part of the global adjustment to the G20 requirements for the OTC derivative market and, as such, also means that they are contributing towards increasing global financial stability.

15. The requirements for membership in central counterparties may, for example, refer to the capital base, the size of the derivative portfolio etc.

16. By the major Swedish banks, we mean Handelsbanken, Nordea, SEB, and Swedbank.

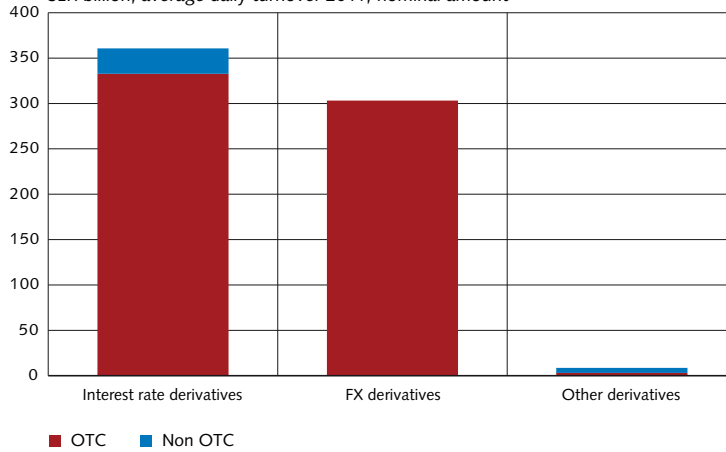
17. By the smaller banks we mean Landshypotek, Länsförsäkringar Bank and SBAB Bank, which were included in the Riksbank's study.

18. In this Economic Commentary, we do not address the consequences of the new requirements. We recommend, for example, Sveriges Riksbank Economic Review 2013:3, Asset encumbrance and its relevance for financial stability, Reimo Juks, to the interested reader.

19. In this case, clearing organisation corresponds to central counterparty organisation.

Charts

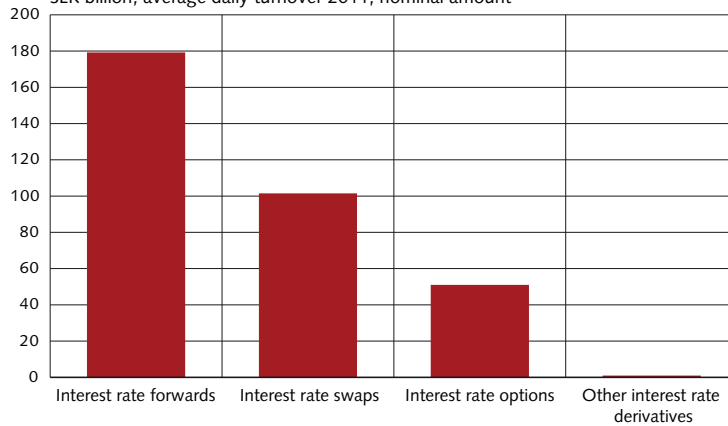
Chart 1. Derivatives traded on stock exchanges and OTC, by type of derivative
SEK billion, average daily turnover 2011, nominal amount



Note. The figures refer to the average turnover in 2011 for the Swedish banks included in the Riksbank's study.

Source: Sveriges Riksbank

Chart 2. Swedish banks' average daily turnover of interest rate derivatives, by derivative type
SEK billion, average daily turnover 2011, nominal amount

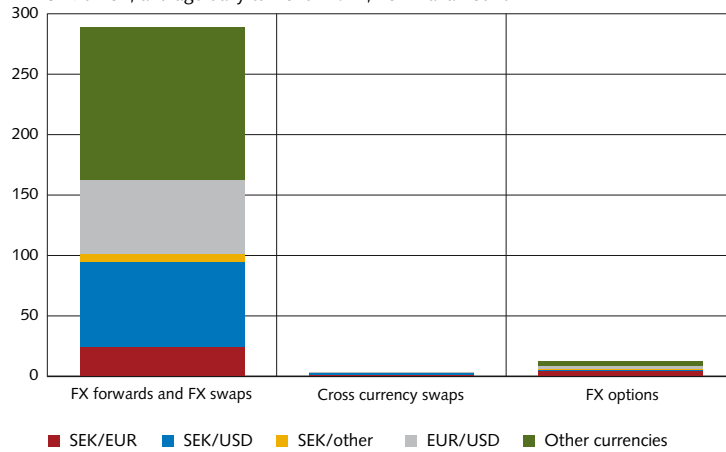


Note. The figures refer to the average turnover in 2011 for the Swedish banks included in the Riksbank's study. Interest rate forwards also include interest rate futures.

Source: Sveriges Riksbank

Chart 3. Swedish banks' average daily turnover of foreign exchange (FX) derivatives, by derivative type and currency

SEK billion, average daily turnover 2011, nominal amount



Note. The figures refer to the average turnover in 2011 for the Swedish banks included in the Riksbank's study. FX forwards and FX swaps have been included in the same category. This is because the banks have no uniform definition of these instruments, but, in certain cases, classify all transactions including an FX forward as (part of) a swap.

Source: Sveriges Riksbank