

MEMORANDUM

Date: 03.07.2008



■ Assessment of OMX Derivatives Markets as a central counterparty, 2007

OMX Nordic Exchange Stockholm AB (OMX STO) is the central marketplace for trading in, among other things, equities, fixed income securities and derivatives instruments in Sweden. OMX Derivatives Markets (OMX DM) is the secondary legal namn of OMX STO and is used for operations involving trading and clearing of derivatives instruments.¹

OMX DM is the central counterparty in clearing standardised derivatives instruments traded on OMX. In its capacity as central counterparty, OMX DM assumes risks and OMX DM is therefore of interest to the stability of the financial system.

The Riksbank (Sweden's central bank) and Finansinspektionen (the Swedish Financial Supervisory Authority) have judged OMX DM's central counterparty clearing to be systemically important, which means that the operation is significant to the stability of the financial system. The assessment is being done on the basis of the recommendations drawn up by the Committee on Payment and Settlement Systems (CPSS) and the Technical Committee of the International Organization of Securities Commissions (IOSCO) found in *Recommendations for Central Counterparties*.² These recommendations aim at providing a comprehensive standard for assessment of the management of various kinds of risks by a central counterparty.

Background

OMX STO conducts stock exchange activities involving equities, fixed income securities and derivatives³. While transactions in shares and interest-bearing securities are cleared and settled at the Swedish Securities Register Centre (VPC's) system for securities settlement, OMX DM organises and oversees clearing and settling of standardised derivatives transactions. For these transactions OMX DM acts as a central

¹ A secondary legal name is not a legal person but refers to a certain part of a company's operations. A subsidiary is registered with the Swedish Companies Registration Office.

² CPSS-IOSCO *Recommendations for Central Counterparties*, BIS, November 2004.

³ OMX DM offers trading and central counterparty clearing of standardised derivatives. OMX STO also organises trade in warrants, which are cleared in the VPC system.

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■ counterparty.⁴ This involves OMX DM acting as seller for all buyers and buyer for all sellers. Both the purchasing and the selling parties thus have OMX DM as the counterparty.

Legal status and supervision

In order to be able to carry on operations with trading and central counterparty clearing of derivatives, OMX Nordic Exchange Stockholm AB (OMX STO) is authorised as a stock exchange and has been granted permission to conduct clearing activities by Finansinspektionen in accordance with the *Swedish Securities Market Act (2007:528) (VpML)*. Finansinspektionen has approved and registered OMX STO with the EU Commission in accordance with the *Swedish Act on Systems for Settlement on the Financial Market (1999:1309)*. OMX STO comes under the supervision of Finansinspektionen. Since OMX DM is the secondary legal name of OMX STO, it is subject to the same legal status and supervision.

Ownership and control

OMX STO forms part of the OMX Group and is a subsidiary of the OMX Nordic Exchange Group Oy, which in turn is a subsidiary of the listed OMX AB. The OMX Group includes the exchanges in Copenhagen, Stockholm, Helsinki, Iceland, Tallinn, Riga and Vilnius as well as the central securities depositories in Estonia, Latvia and Iceland. The OMX Group also has a participating interest in the Lithuanian central securities depository. In addition, OMX AB is a participant in the derivatives stock exchange EDX London Exchange, which via LEC (Linked Exchange and Clearing) offers its counterparties trade in Nordic equity derivatives and local clearing of derivatives.

Derivatives business is conducted in the business area of OMX DM. Management and the board at OMX STO is responsible for the derivatives business at OMX DM. In organisational terms, OMX DM is included in the business area Nordic Marketplaces, which runs the share and derivatives stock exchanges in Stockholm, Helsinki, Copenhagen and Iceland. The business area Nordic Marketplaces includes the operations Derivatives Markets, Securities Trading Services and Company Services. Alongside the stock exchange activities, the OMX Group operates activities in the business areas of Market Technology and Information Services & New Markets.

Historical outline

The year of 1984 saw the formation of the privately owned company OM Stockholm AB. The following year, OM started the first derivatives exchange in the Nordic region, an exchange for trading and clearing standardised options and derivatives. Stock in the company was offered publicly in 1987 and was then the first exchange whose stocks were public.

At the beginning of 1998 OM AB acquired the Stockholm Stock Exchange. Since 1 July 1999 the equities and derivatives operation has been run as part of the same company, what was then called the OM Stockholm Exchange (OM Stockholmsbörsen).

In autumn 2003, OM AB merged with the Finnish company HEX Plc, who were owners of the stock exchange in Finland, Estonia and Latvia. Following the amalgamation, the name was changed to OM HEX AB and the Finnish derivatives trading were transferred to the Stockholm Stock Exchange. That same year OM HEX and the London Stock Exchange formed the derivatives exchange EDX London Exchange, which via LEC (Linked Exchange Clearing) offers its counterparties trading in Nordic derivatives with local clearing.

In August 2004, the new name OMX was adopted. During 2004 a majority (80 percent) of the stock exchange in Lithuania was acquired, together with parts of the securities register centre (40 percent) in Lithuania. A further step towards increased integration was taken at the end of 2004, when equities trading in Finland, Estonia and Latvia was relocated to the same technical platform used by other stock exchanges in the Nordic region. In May 2005 the Lithuanian stock exchange was also moved to this platform. Thus, all

⁴ For a discussion of the merits and demerits of a central counterparty, see *Financial Stability* 2002:2, pp. 47-58.

■ Nordic and Baltic countries employ the same trading system (SAXESS) for their equities trading. The Copenhagen Stock Exchange has formed part of OMX since 1 January 2005.

During the 2006 consolidation on the stock exchange side continued, with OMX then acquiring the Icelandic stock exchange and purchasing 10 per cent of the shares in the Oslo Exchange. On the derivatives side, consolidation took place as a result of Finnish and Danish derivatives starting to be traded and cleared at OMX in the wake of the merger between the stock exchanges. In December 2006 OMX launched trading and clearing in Russian derivatives.

In May 2007, the product range in derivatives business was expanded by launching Icelandic derivatives, which became the subject of trading at OMX. That same month it was announced that NASDAQ Stock Market Inc. intended to buy OMX. On 1 July 2007 certain companies within the OMX Group changed names. The purpose was to have the name OMX reflect Nordic strategy and in so doing, among other things, the Stockholm Exchange (Stockholmsbörsen AB) changed names to OMX Nordic Exchange Stockholm AB (OMX STO). The central counterparty for derivatives clearing is the subsidiary OMX DM (formerly the Stockholm Stock Exchange). On 31 August OMX DM launched trading and clearing in Baltic derivatives. In September, NASDAQ Stock Market Inc. and Borse Dubai presented a collective solution for purchasing OMX which would involve Dubai being a major owner of a consolidated OMX NASDAQ. In November OMX agreed to buy the Armenian Stock Exchange and the securities register centre. The deal went through at the start of January 2008 and OMX become active outside of the Nordic-Baltic region. At the end of 2007 it was announced that OMX was acquiring Nord Pool ASA's clearing, consultancy and international derivatives products. A business unit for international energy derivatives trade will be established with its base in Oslo. The purchase is expected to go through during 2008.

Operations

OMX STO offers trading in, among other things, equities, premium bonds, convertibles, warrants, bonds and debentures, and exchange-traded funds. In addition, trading and clearing in Swedish, Finnish, Norwegian, Danish, Baltic, Russian⁵ and Icelandic derivatives is offered, such as stock options, index options, interest derivatives, share and index futures as well as certain OTC derivatives.

OMX DM clears all standardised derivatives products, such as clearing-listed instruments, semi-standardised instruments and TM-cleared instruments.⁶ The kinds of instruments cleared are set out in the quotation list in force.

There is also collaboration with derivatives exchanges and clearing organisations in London and Oslo, set up through a trading and clearing link, LEC (Linked Exchanges and Clearing). The link makes trading in all Nordic derivatives possible in all three marketplaces. OMX DM handles the clearing of these transactions for its own participants. OMX also has a collaboration agreement with the German derivatives exchange Eurex, where the most sold Finnish derivatives contracts are traded.

OMX DM's commitment as central counterparty

OMX DM acts as central counterparty for the derivatives traded in its own trading system and for certain derivatives traded over-the-counter (OTC), i.e. outside of OMX's trading system but reported to OMX DM.⁷ For derivatives traded on the stock exchange and in the trading system, the transaction is transferred to the clearing system immediately on completion. Once the transaction has been recorded in the clearing system, OMX DM acts as central counterparty. In connection with this registration, OMX DM replaces the original contracts with two new contracts. This makes OMX DM the legal counterparty to both sides of the transaction – buyer to each seller and seller to each buyer. For certain derivatives traded outside of the stock exchange and the trading system, and reported to OMX DM, OMX DM offers central counterparty services. That applies both to instruments that are cleared only and to instruments that are approved on a case-by-case basis.

⁵ The Russian derivatives are made up of depository receipts and traded on EDX in London and OMX DM. Turnover is less than one per cent of the total turnover in derivatives on OMX DM. The risks associated with the Russian derivatives are thus limited.

⁶ Tailor-made (TM) clearing is clearing of non-standardised derivatives contracts traded on the OTC market.

⁷ Does not apply to all types of derivatives, e.g. not to warrants.

■ As counterparty, OMX DM guarantees completion of each transaction, regardless of the original counterparty's ability to pay and deliver. OMX DM does not, however, undertake to complete the transaction on the appointed day if a counterparty cannot complete its commitments or fails to supply securities promptly. If a counterparty cannot complete its commitments, he is deemed to be violating OMX DM's rules.

If a counterparty defaults, OMX DM is entitled to close down its positions and liquidate its securities. OMX DM completes the transaction at the latest when this process has been completed. If a counterparty cannot discharge its commitments, OMX DM can, with the consent of its counterparty, substitute a cash amount for a security.

Delays to security deliveries can arise without the original counterparty being deemed to be violating OMX DM's rules. In such cases delivery can be deferred subject to the counterparty's consent. The counterparty will then also be entitled to a delay charge, though this is currently fixed at zero. This type of delay is relatively rare and in most cases lasts one or two days at most.

Participants

There are three categories of participant in OMX DM's derivatives business:

- Exchange members
- Clearing members
- End-customers

Stock exchange and clearing members, comprising chiefly banks and broking firms, make exchange member or clearing member agreements, respectively, with OMX STO. Exchange members can deal directly with OMX STO both under their own name and by order of their customers. The commonest thing is for a exchange member to be a clearing member too, but it is possible to act solely as a stock exchange or clearing member.

At OMX DM, so-called end-customer clearing is deployed, which involves the customers, both financial institutions and private individuals, normally having their own account and a direct contractual relationship with the central counterparty.⁸ Conversely, they cannot deal directly with OMX DM, nor can they handle the clearing of transactions. Trading and clearing are handled solely by stock exchange and clearing members. The services stock exchange and clearing members perform on behalf of the customer and the risk taken depend on the customer's choice of account structure (see below).

On 1 June 2007 OMX DM introduced a new service called member clearing, which is an alternative to end-customer clearing. By virtue of this new service, a clearing member can be either a direct or a general clearing member. Both direct and general clearing members are allowed to clear transactions on their own behalf, for customers who have concluded a customer agreement with OMX DM, and for customers on whose behalf transactions are registered on an aggregated customer account.⁹ What distinguishes general from direct clearing members is the fact that general clearing members are allowed to clear transactions for exchange members who are not clearing members. Given that a exchange member may account for a major part of the deal, special requirements are made of the general clearing member but, among other things, that member must have financial resources of at least SEK 500 million. Member clearing involves OMX DM having a contractual relationship with clearing members only, not with customers.

Account structure

OMX DM provides member accounts¹⁰ and customer accounts. For member accounts the members are account holders on their own behalf, which involves members following their transactions on the day of trading and receiving information about their rights and obligations in terms of security requirements,

⁸ In most other countries the central counterparty has a direct relationship with clearing members only. At OMX DM end-customers have their own accounts with VPC and its counterparts. This is also different in most other countries, where only brokers have accounts with the central registrar.

⁹ Read more about aggregated customer accounts under the heading Account structure.

¹⁰ The following types of member account exist: Daily, interim, proprietary, market maker and APT accounts.

■ payments and deliveries. Customer accounts are intended for registering transactions on behalf of customers. Customer accounts are divided into individual customer accounts and aggregated customer accounts. An individual customer account is a customer account that has been opened for a customer who has concluded a customer agreement with OMX DM. In member clearing an aggregated customer account is offered, which is an integrated trading and clearing account opened for a clearing member. On the aggregated customer account, transactions are cleared on behalf of one or more customers. On the aggregated customer account, transactions of a general clearing member are also cleared on behalf of the exchange member.

In functional terms, member accounts and customer accounts are divided into trading accounts and clearing accounts, respectively. These accounts are opened by OMX DM at the request of the trading account holder or clearing account holder, respectively, on behalf of the holder or a customer. On a trading account, transactions of instruments approved for registration by OMX DM are recorded. A clearing account lists the contracts that are registered on one or more trading accounts linked to the clearing account. A trading account can be linked to a clearing account or to an aggregated customer account.

End-customers are offered two different account structures: an integrated trading and clearing account or separate trading and clearing accounts. Most end-customers opt for an integrated trading and clearing account and then have to use the same intermediary for their trading and clearing. As a result, only members who are both stock exchange and clearing members can manage integrated trading and clearing accounts.

Major end-customers trading through a number of different market players often use separate trading and clearing accounts, since it is then possible to have several separate trading accounts linked to the same clearing account. Multiple trading accounts with various account holders mean that the end-customer's aggregated positions are only visible on the clearing account and hence the positions on the various trading accounts can be netted on the clearing account. A clearing account lists the contracts registered to one or more trading accounts linked to the clearing account. On a clearing account, rights and obligations for certain account holders are also established.

Providing security

End-customers and clearing members must provide security for commitments made as part of their clearing operations.

End-customers with an integrated trading and clearing account provide security indirectly, which involves collateral being pledged for clearing members, who in turn pledge collateral to OMX DM on behalf of the customer. The clearing members administrate security requirements from OMX DM and clearing accounts for their customers with an integrated trading and clearing account.¹¹

Customers holding separate trading and clearing accounts furnish security directly to OMX DM. The clearing member administrating a trading account takes risks on behalf of the end-customer from the moment the transaction has been booked on the account to the time collateral has been pledged. Once collateral has been pledged, the risk associated with the exposures not covered by the collateral rests with OMX DM.

In the case of end-customer clearing, the value of any securities furnished by the clearing members to OMX DM cannot be calculated on the basis of the net profit from the various end-customers' positions. Netting is done at end-customer level, not at member level. By introducing member clearing, the customer is responsible for its collateral in relation to clearing members, and the customer thus assumes no contractual relationship with the central counterparty. The clearing members can then combine the customers' securities and take responsibility for pledging collateral on the basis of the net profit vis-à-vis the central counterparty. The major difference between end-customer clearing and member clearing is that end-customer clearing yields a higher total value for the collateral pledged to the central counterparty compared with a system that allows netting at member level.

¹¹ Integrated trading and clearing accounts can only be managed by clearing members. See discussion on account structure below.

■ *Technical platform*

OMX DM's derivatives clearing is effected in SECUR™, a system developed by OMX Technology. Transactions involving derivatives are transferred directly from the trading system to the clearing system. The customers have the option of monitoring their transactions, computing the transaction costs and their security requirements by using software that is part of the SECUR™ system.

OMX STO has entered into an agreement with OMX Technology AB to outsource systems operations and development services. Under the agreement OMX DM has the possibility of expanding system capacity. OMX Technology has also created a network of its own, Stockholm Financial Network (SFN), which participants use to communicate with OMX STO.

Clearing

As OMX DM introduced member clearing during 2007, an alternative to end-customer clearing is now available. At the end of 2007 there were still no general clearing members. All clearing during 2007 was thus done using end-customer clearing.

End-customer clearing involved end-customers receiving a credit risk against OMX DM, not against clearing members. For clearing members, who are agents, the settlement risk against OMX DM is minimised. Formally speaking, clearing members are agents only, and thus not the counterparty for the end-customer's transactions in the legal sense.¹² In their role as agent, however, clearing members are accountable to OMX DM for the end-customer's commitments. Given OMX DM's use of end-customer clearing, the end-customers are afforded greater protection if the clearing members go bankrupt.

When OMX DM is cleared at end-customer level, it will normally have no information about the end-customers' identity; rather, these are identified by a number in OMX DM's system only. In order to maintain the end-customer's anonymity it is the clearing members, instead, who are responsible for ensuring that the end-customer has taken out the necessary contracts and provided adequate collateral. OMX DM and the Swedish Securities Dealers Association collectively own the company Clearing Control AB (CCAB), whose mandate is twofold: to guarantee that customer agreements are correct and to carry out random sampling to check that the securities furnished are acceptable and correct. If and when OMX DM so wishes, CCAB also has the right to conduct inspections at the premises of other players to verify the collateral stock. Under certain circumstances, such as when an end-customer cannot pay or OMX DM has cause to suspect an end-customer of defaulting on its obligations, OMX DM has the right to be told the end-customer's identity by CCAB.

As soon as a derivatives transaction has been registered in the clearing system, counterparty risks arise for OMX DM. Since OMX DM does not require collateral until 12 noon on the day following the trading day, the transaction involves an overnight credit risk. OMX DM's derivatives rules and regulations stipulate that the exchange members must bear the risk of the exposures on their end-customers' accounts before the collateral reaches OMX DM. However, OMX DM bears the risk of the exposures on exchange members' own accounts.

Statistics

During 2007 OMX DM's participants traded an average of 588,000 derivatives contracts a day. The average security requirement per day in Swedish kronor during 2007 amounted to approx. SEK 17.7 billion.

Risk management

One of the services a central counterparty offers the market is managing the counterparty risks that sometimes arise between the conclusion of a contract and the final settlement of a transaction. In its role as central counterparty, OMX DM takes counterparty risks on all participants in the derivatives clearing. In order to manage the counterparty risks, OMX DM has a risk management policy that includes the following main components:

¹² Only in cases where clearing members trade under their own auspices do they formally become a counterparty.

- Financial and operational requirements for membership and monitoring of members' continuous compliance with requirements (see rec. 2)
- Monitoring and management of OMX DM's exposures to each participant (see rec. 3)
- Calculation of the collateral needed to cover the exposures and administer securities (see rec. 4)
- Routines to minimise disruptions and close positions in the event of a participant defaulting (rec. 1 and 6)
- Financial resources to cover losses (rec. 5)
- Financial and operational requirements for collateral institutions (rec. 7)
- Investigation in connection with new links to other stock exchanges, followed by continuous monitoring of existing links (rec. 11).

In addition to the above, the Risk Management Department at OMX DM must also develop OMX DM's policy and routines surrounding risk management and provide OMX DM's managers with information about risk management.

OMX DM checks that those applying for stock exchange and clearing membership meet the member requirements from a counterparty risk perspective. Once a member has been admitted, regular monitoring takes place to ensure that this member also continues to comply with requirements.

The counterparties must furnish their particular collateral institution with security in the form of ready cash, surety bonds or collateral approved by OMX DM. It is incumbent on the collateral institution to apply the haircut established by OMX DM and set out in the list of approved collateral, the "Collateral List", which can be found in OMX DM's derivatives rules and regulations. These routines give OMX DM a knowledge of the day-to-day collateral requirement but no insight into the individual securities furnished by these members and customers.

At least once an hour the collateral requirement is computed for each individual counterparty. If security requirements prove to be high in relation to the limits laid down, the Risk Management Department will take action in accordance with established routines to reduce OMX DM's exposure to the counterparty.

OMX DM calculates the collateral requirement needed to cover OMX DM's costs in order to close down (liquidate) the positions in the portfolio in the event of the counterparty being unable to discharge its obligations. In calculating these costs, account is taken, among other things, of the lead time; that is to say, the time it takes to close down the positions (two days for OMX DM), the underlying volatility of the instrument, any correlation between different instruments and spread costs. The collateral requirement is calculated with a confidence interval of 99.2 percent, roughly equivalent to the fourth-largest price movement over a two-year period.

If a counterparty fails to discharge its commitments and it were to prove that the securities furnished by him were inadequate, OMX DM would need to have the financial strength to bear any loss itself. OMX STO has financial assets and insurances equal to SEK 1,553 million. Of this, 403 million constitutes equity and 1,150 million insurances. SEK 150 million of the equity also has to cover losses originating from operational risks. The "clearing capital" amounts to SEK 1,403 million and is designed to cover only counterparty losses in the clearing operation.

Method and summary

In accordance with the current agreement on cooperation within the framework of their financial stability work, The Riksbank and Finansinspektionen have prepared this assessment jointly. The two authorities have cooperated on the assessment work at all times and both agree on the results.

The assessment focuses solely on OMX DM's clearing of derivatives transactions. It follows the recommendations and methodology compiled as a result of cooperation between the Committee on Payment and Settlement Systems (CPSS) and the Technical Committee of the International Organization of Securities

■ Commissions (IOSCO), which can be found in the report entitled *Recommendations for Central Counterparties*. The report was published by the Bank for International Settlements (BIS) in November 2004.

The assessment is based on 15 recommendations, to be applied to OMX DM. An assessment is then given of the degree to which OMX DM fulfils each respective recommendation. This is indicated as one of the following: observed, broadly observed, partially observed or non-observed.

Recommendation 15 relates to regulation, supervision and monitoring of central counterparty clearing. The assessment describes each respective authority's activities on the basis of the relevant recommendation. However, the authorities have consciously refrained from assessing the degree to which the recommendations are met themselves.

The Riksbank and Finansinspektionen have elected to provide comments on three recommendations. Two of the comments are given despite the fact that, overall, OMX DM is deemed to fulfil the two recommendations concerned. This is due to the fact that the structure of the Swedish financial market and OMX DM's routines differ in certain respects from those used as a basis for the requirements imposed, giving reason to stipulate additional requirements for OMX DM. One of the comments is given on the grounds that OMX DM does not fulfil the recommendations concerned. It is the intention of the Riksbank and Finansinspektionen to follow up these comments in their ongoing monitoring work.

Summary of the assessment

Assessment categories	Recommendation
Observed	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14
Broadly observed	13
Partially observed	
Not observed	
Not assessed	15

The table shows that OMX DM fulfils 13 of the 14 recommendations that have been assessed by Finansinspektionen and the Riksbank. One recommendation is assessed as broadly observed.

■ Proposal for action

Recommendation	Comment
5	The end-customer's anonymity contributes to the uncertainty of OMX DM's risk assessment. During 2007 OMX DM has stepped up its work to reduce this uncertainty, and as the first step OMX DM is offering member clearing, from 1 June 2007 inclusive, as an alternative to end-customer clearing. Member clearing entails OMX DM having risk exposure to clearing members only.
13	On the grounds of the discrepancies identified in OMX DM's internal audit regarding the correctness of the actual size of the clearing capital, OMX DM should revert to Finansinspektionen and the Riksbank with proposals for action to be taken to make amends for these discrepancies.
14	The Riksbank and Finansinspektionen consider that OMX DM should publish quarterly statistics on the value of the collateral that has been pledged to OMX DM. In addition, OMX DM should publish accessibility statistics for the derivatives clearing at SECUR and describing accessibility in relation to the accessibility target. The description of OMX DM's commitments for security delivery should be made clear in <i>OMX Derivatives Markets as a Counterparty</i> and other information available to the public.

The assessment

Recommendation 1: Legal risk

A CCP should have a well-founded, transparent and enforceable legal framework for each aspect of its activities in all relevant jurisdictions.

OMX DM's role as a central counterparty is regulated by Swedish legislation and OMX DM's own rules and regulations. This assessment considers both. All Swedish legislation and OMX DM's derivatives rules and regulations with the attendant member and customer agreements are public and accessible on the Internet. Below, Swedish legislation is dealt with first, then OMX DM's derivatives rules and regulations.

New law—a security market law

On 1 November 2007 the *Swedish Securities Market Act (2007:528) (Lagen (2007:528) om värdepappersmarknaden (VpML))* entered into force. Thus the EC Markets in Financial Instruments Directive (MiFID) was introduced to Sweden.¹³ The Act applies to all companies operating securities trading, stock exchange activities or clearing operations. Introducing MiFID gives the member countries, including the EES, a set of collective rules for the European capital market.

¹³ The Directive on Markets in Financial Instruments, MiFID, aims to increase competition on the European security markets, improve monitoring and strengthen consumer protection.

■ The *Swedish Securities Market Act (2007:528) (VpML)* supersedes the Securities Business Act (SFS 1991:981) and the Securities and Clearing Operations Act (SFS 1992:561). This does not affect OMX DM's derivatives clearing.

Swedish legislation

Finansinspektionen has authorised OMX DM as a clearing organisation in accordance with the *Swedish Securities Market Act (2007:528) (VpML)*. The Act specifies that OMX DM is to operate its activities honestly, fairly and professionally, so as to maintain the confidence of the general public in the securities market. Furthermore, OMX DM must satisfy the security requirements commensurate with sound activities.

Finansinspektionen has approved and registered OMX as a clearing organisation with the EU Commission in accordance with the *Swedish Act on Systems for Settlement on the Financial Market (1999:1309) (Settlement Systems Act)*. OMX DM falls under the supervision of Finansinspektionen and is monitored by the Riksbank, owing to the potential system risks entailed by central counterparty services on the Swedish financial market.

Swedish law provides support for settling obligations that are central to OMX DM's derivatives clearing. In the *Swedish Financial Instruments Trading Act (1991:980) (LHF)* it is stated that settlement of obligations between two or more participants in a registered settlement system applies to the bankruptcy estate and to the creditors in the bankruptcy if settlement has taken place in accordance with the system's rules. This provision also applies to settlement that takes place during the clearing process in OMX DM's system.

Moreover, provisions exist in Swedish law concerning the pledging of collateral and realisation of securities in the event of a bankruptcy. The *Swedish Act on Privileges in Bankruptcy (1970:979) (FRL)* shows that the pledgee, in this case OMX DM, has what is known as priority claims on the pledged property in the event of default (bankruptcy). As a result of this privilege, with regard to payment from the pledge, OMX DM need not defer to any other creditor. The *Swedish Bankruptcy Act (1987:672) (KL)* gives OMX DM the option, in the event of a bankruptcy, of immediately selling financial instruments in the possession of the stock exchange as security, if done in a commercially reasonable manner.

Final settlement at OMX DM is effected by means of delivering cash or collateral. For the most part, final settlement of cash is through RIX, the Riksbank's payments system.¹⁴ RIX has been evaluated in accordance with CPSS *Core Principles for Systemically Important Payment Systems* and has been deemed to fulfil the principle of a well-founded legal basis.¹⁵

In most instances final settlement of securities is effected through VPC. The bulk of all securities are registered in VPC's system, making gross settlement possible, based on the principle of delivery-versus-payment (DVP) in central bank money.¹⁶ The legal basis for VPC has been assessed in accordance with CPSS *IOSCO Recommendation for Securities Settlement Systems* and has been found to fulfil the requirements for a sound and legal framework.¹⁷

*OMX DM's derivatives rules and regulations*¹⁸

OMX DM has endorsed a set of what are known as derivatives rules and regulations that regulate the exchange's trading and clearing activities as well as the legal relationship between the exchange and the various participants, i.e. exchange members, clearing members and customers. The derivatives rules and regulations also contain certain stipulations regarding the relationship between clearing members and customers. The rules and regulations become the subject matter of the contract between OMX DM and the participants by virtue of contracting a member agreement or customer agreement. Since OMX DM provides

¹⁴ A small part of OMX DM's cash settlement is done in Denmark's, Finland's and Norway's equivalent to RIX. These have been reviewed on the basis of CPSS *Core Principles for Systemically Important Payment Systems* and deemed to fulfil the principle of a sound legal basis. See www.nationalbanken.dk for Denmark and www.imf.org for the IMF's assessment of payment systems in Finland and Norway.

¹⁵ See www.riksbank.se.

¹⁶ A small proportion of OMX DM's securities delivery is done in the Danish, Finnish and Norwegian security systems, all of which are based on delivery-versus-payment (DVP) in the settlement.

¹⁷ See www.riksbank.se.

¹⁸ See OMX DM's derivatives rules and regulations, www.omxgroup.com/nordicexchange/produkter/derivatmarknaden/

■ end-customer clearing, it has a direct legal relationship, through the agreement, with the end-customers. The agreements that were set up for clearing members and end-customers are included as appendices to the derivatives rules and regulations.

The derivatives rules and regulations specify OMX DM's rights and obligations by describing how and when registration, set-off, futures netting and settlement take place. They also specify if a bank transfer order has to be considered irrevocable, as well as describing the actions open to OMX DM in the event of delayed security deliveries (see also recommendation 10).

The eligible assets that can be pledged as collateral and the haircuts associated with each type of collateral are also defined in the derivatives rules and regulations. There is also a description of the formalities governing, respectively, customers' and clearing members' provision of collateral, determination of the collateral balance, and the need for additional collateral and when this is to be furnished. The derivatives rules and regulations also contain a description of all the derivatives contracts that can be traded and cleared at OMX DM.

The derivatives rules and regulations stipulate that the interpretation and application of the derivatives rules and regulations must be subject to Swedish law. Moreover, it is specified that if a customer is a non-resident of Sweden, Denmark, Finland or Iceland, the clearing members are responsible for ensuring that the derivatives rules and regulations and collateral arrangements issuing from the derivatives rules and regulations are legally valid in the customer's homeland and that the derivatives rules and regulations are in all respects binding on the customer and vis-à-vis the customer's bankruptcy estate or equivalent.

Cross-border activities

OMX DM has foreign participants and therefore needs to be sure that its own derivatives rules and regulations are legally binding on those participants and that OMX DM has backing for its actions in the event of foreign participants' bankruptcy. The risk of uncertainty as to which country's laws apply is minimised by the fact that Sweden and the other European countries have implemented EU *Directive 98/26/EC on Settlement Finality in Payment and Securities Settlement Systems* (the Settlement Finality Directive). The Settlement Finality Directive states that if a participant in a notified settlement system were to be adjudicated bankrupt, the law that is valid is the one applicable in accordance with the system's rules.

OMX DM accepts foreign securities as collateral. Lien on dematerialised securities follows the laws in the country where the security is registered. OMX DM accepts securities from Norway, Denmark, Finland and Iceland as collateral. In all these countries the Settlement Finality Directive and *Directive 2002/47/EC on Financial Collateral Arrangements (The Collateral Directive)* has been implemented. The Finality and Security directives regulate, among other things, OMX DM's right to pledged collateral. OMX DM settles transactions in these four countries. The implementation of the Settlement Finality Directive provides support so that the risk of revocation of payment or security transfers no longer exists once they have been approved in accordance with the settlement system's rules.

A more detailed examination of OMX DM's trading and clearing cooperation with other stock exchanges and clearing organisations and the legal basis for such can be found in recommendation 11.

Considerations

In accordance with The Riksbank and Finansinspektionens assessment, Swedish legislation and OMX DM's derivatives rules and regulations include adequate support for OMX DM's role as central counterparty in clearing operations.

Assessment

The Riksbank and Finansinspektionen assess recommendation 1 as observed.

■ Recommendation 2: Participation requirements

A CCP should require participants to have sufficient financial resources and robust operational capacity to meet obligations arising from participation in the CCP. A CCP should have procedures in place to monitor that participation requirements are met on an ongoing basis. A CCP's participation requirements should be objective, publicly disclosed, and permit fair and open access.

Requirements for membership in OMX DM's derivatives clearing are defined in OMX DM's derivatives rules and regulations. The requirements set out the types of company that can become stock exchange and clearing members as well as the requirements made in terms of organisation, risk management and technical systems at these companies. The financial requirement is that a direct clearing member must have a capital base of at least SEK 10 million and a general clearing member at least SEK 500 million. A general clearing member also needs to have permission to conduct operations at a credit institute in accordance with the Banking Coordination Directive. Both direct and general clearing members must be a legal person with permission to operate a securities business in accordance with the law of the land where it is domiciled.

In accordance with the *Swedish Securities Market Act (2007:528) (VpML)* OMX DM must apply the principle of free access and neutrality for its participants. OMX DM evaluates its members continuously to guarantee that membership requirements are constantly being met. In accordance with OMX DM's derivatives rules and regulations each member must provide OMX DM with information regarding its financial strength and creditworthiness. OMX DM also makes requirements of brokers and back office personnel. The latter must have undergone a course provided by OMX DM and have been approved at examination to be allowed to take part in the clearing operation. In addition, they must have a general knowledge of OMX DM's derivatives products. Back office personnel meeting these requirements are registered for participation in clearing.

A description of what is referred to by exchange member, clearing member and customer's non-fulfilment and the measures OMX DM is at liberty to take under such circumstances can also be found in OMX DM's derivatives rules and regulations.

Considerations

OMX DM performs continual monitoring to ensure that members satisfy the membership requirements laid down. The requirements, which are clearly established and accessible to the general public, are defined in OMX DM's derivatives rules and regulations and, in accordance with the Riksbank's and Finansinspektionens judgement, ensure that members have sufficient financial wherewithal and operational resources. The rules are objective and applied uniformly.

Assessment

The Riksbank and Finansinspektionen assess recommendation 2 as observed.

Recommendation 3: Measurement and management of credit exposures

A CCP should measure its credit exposures to its participants at least once a day. Through margin requirements, other risk control mechanisms or a combination of both, a CCP should limit its exposures to potential losses from defaults by its participants in normal market conditions so that the operations of the CCP would not be disrupted and non-defaulting participants would not be exposed to losses that they cannot anticipate or control.

OMX DM has routines in place for calculating and handling its counterparty exposures. OMX DM's exposure to each counterparty is automatically calculated once every hour, based on real-time pricing information for share products and closing price information for interest products. These exposures are

■ checked at least once a day by the Risk Management Department. After the end of the trading day, a calculation is done of OMX DM's final exposure, forming the basis for the next trading day's in-depth collateral balance.

These calculations also constitute the basis for OMX DM's management of counterparty risks. A cornerstone of risk management is mortgaging or pledging of collateral, which is described in more detail in recommendation 4. OMX DM also monitors members' financial positions and works out credit limits based on this. Limits to exposures are fixed for each member and end-customer that stands surety direct to OMX DM. If these limits are exceeded, the Risk Management Department will investigate the situation, and various measures can be taken. For instance, the positions can be reduced or OMX DM can also request additional collateral intraday.

Considerations

OMX DM's exposures are continually calculated every hour with up-to-the-minute pricing information; there is also scope for gauging them more often, if needed. OMX DM uses these calculations to manage its exposures to participants during the day. In accordance with the Riksbank's and Finansinspektionens assessment, OMX DM's requirements for collateral and risk management procedures are designed in such a way that the risk of losses as a consequence of counterparty failure, in the event of adverse though not extreme price fluctuations, is limited.

Assessment

The Riksbank and Finansinspektionen assess recommendation 3 as observed.

Recommendation 4: Margin requirements

If a CCP relies on margin requirements to limit its credit exposures to participants, those requirements should be sufficient to cover potential exposures in normal market conditions. The models and parameters used in setting margin requirements should be risk-based and reviewed regularly.

The collateral pledged to OMX DM is intended to cover losses as a consequence of OMX DM's counterparties' inability to honour their commitments in the event of adverse, but not extreme, price fluctuations. The need for collateral is calculated based on the exposures to each individual counterparty's portfolio. The value of the securities must cover OMX DM's costs in order to liquidate the counterparty's portfolio once valued at the time of adverse price fluctuations. These price fluctuations are calculated on the basis of a statistical method that presupposes a confidence interval of 99.2 per cent based on the historical data of the last two years for each underlying instrument, which is roughly equivalent to the fourth largest price fluctuation during the two-year period. Price fluctuations are calculated for a time interval of two days for all products apart from cash bonds, for which price fluctuations are calculated for three days. The time interval reflects the number of days OMX DM expects it to take to close down all counterparty's positions.¹⁹

The need for collateral is calculated daily and OMX DM's Risk Management Department is responsible for performing the calculations. If the stock of collateral is insufficient, additional securities have to be furnished to cover the negative security margin.

OMX DM's model for calculating the need for collateral, RIVA margining, is compared with other existing models and examined by both internal and external auditors at the time of adopting any major changes to the model. Special demands are made in terms of internal and external approval if the methodology in the model

¹⁹ If a counterparty cannot discharge its obligations, OMX DM estimates that it will take a day to confirm and announce this and an additional day to close down the positions.

is to be applied. However, OMX DM itself has the option of revising the risk parameters in the event of extreme price fluctuations.

OMX DM conducts back-testing of the model on a quarterly basis in accordance with customary market standards. The purpose of back-testing is to ensure, using historical data, that the model yields fair and predictable results. Such back-testing has been done since 1 July 2005 and shows that the model has valued the collateral correctly.

OMX DM accepts the following assets as security:²⁰

- cash funds in SEK, GBP, DKK, EUR, NOK, CHF, ISK and USD
- certain warranties/guarantee engagements (subject to separate approval)
- bank certificates issued by Swedish, Danish, Finnish and Icelandic banks
- bonds and certificates issued by Swedish, Danish, Finnish and Icelandic banks and building societies
- treasury bills and government bonds (for selected countries and with credit rating restrictions)
- equities (a selection admitted for trading on the OMX Nordic List²¹ and the Oslo Stock Exchange²²)

There are limitations on amounts and deductions when valuing the above instruments. For bank certificates, bonds and government bonds OMX DM has criteria for the lowest approved debt rating (Moody's and S&P). OMX DM will not approve securities issued by the counterparty itself, nor securities issued by the counterparty's subsidiary or some other company in the same group.

The securities are managed by whichever collateral institution has been engaged, for which reason OMX DM itself has no direct access to information about the securities actually included in the collateral stock. This means that OMX DM itself cannot normally investigate the connections that exist between the counterparties and their collateral as well as the adequacy of the collateral in various market scenarios. OMX DM has looked into the possibility of sourcing this information but has not yet found a practical solution. OMX DM is aware of the risk involved in this and therefore uses relatively large haircuts for the collateral pledged to OMX DM.

In special situations, however, OMX DM can obtain information about the collateral that has been pledged to OMX DM. During OMX DM's checks on the collateral institution's scope for disclosing this information, it has transpired that the information can quickly be accessed, where required. CCAB verifies the stock by making annual spot checks at members' premises. To date no situation has ever arisen in which the collateral stock has failed to conform with OMX DM's derivatives rules and regulations or been in any other way inadequate.

The list of approved collateral, known as the Collateral List, found in OMX DM's derivatives rules and regulations show the haircuts that need to be made when valuing pledged collateral. The estimated value tallies largely with current recommendations from the Swedish Bankers' Association, but is in some respects larger. The haircuts are revaluated every quarter and influenced by volatility changes and falls in prices.

Considerations

In accordance with the Riksbank's and Finansinspektionens considerations, OMX DM has, under normal market conditions, adequate collateral in order to deal with a counterparty's bankruptcy. OMX DM values the size of the collateral stock daily and is entitled to request additional collateral in the event of a negative security balance. Back-testing of the valuation model has been in place since 1 July 2005 and no deviations have occurred.

²⁰ For a complete security list, see OMX DM's derivatives rules and regulations, Appendix 12.

²¹ See OMX DM's derivatives rules and regulations, Appendix 12a.

²² Refers to shares listed on the Oslo Stock Exchange and included in the "Master List", and on which there are also derivatives listed on the Oslo Stock Exchange.

■ In the view of the Riksbank and Finansinspektionen, this knowledge of the way the collateral stock is made up should be valuable in terms of risk management. The results of OMX DM's investigation into the possibility of acquiring this information show that it would not appear to be feasible in the present situation. OMX DM's checks to ensure that collateral institutions can provide information about a customer's collateral quickly, if need be, are valuable and should be repeated at suitable intervals.

The haircuts required by OMX DM when valuing pledged collateral are relatively large, which may be considered reasonable with reference to the fact that OMX DM does not acquire the collateral itself. Since the collateral is administered by the collateral institution engaged, realising the collateral stock can take rather longer.

Assessment

The Riksbank and Finansinspektionen assess recommendation 4 as observed.

Recommendation 5: Financial resources

A CCP should maintain sufficient financial resources to withstand, at a minimum, a default by the participant to which it has the largest exposure in extreme but plausible market conditions.

If the counterparty's collateral were inadequate in connection with a counterparty default, OMX DM would need to have sufficient financial strength to bear any loss itself. At the end of 2007 OMX DM has financial assets and insurances equal to SEK 1,553 million. Of this, 403 million is equity capital and 1,150 million insurances. SEK 150 million of the equity must also cover any losses originating from operational risks. OMX DM's clearing capital totals SEK 1,403 million (253 million in equity and 1,150 million in insurances) and is only intended to cover the counterparty's losses in the clearing operation.²³

The clearing capital comprises two components: partly the value ascribed by the RCaR calculation and partly a buffer. RCaR (RIVA Capital-at-Risk) is a risk capital model developed by OMX. The model is used to carry out "stress tests" to estimate the need for capital to cover any counterparty's losses if the pledged collateral falls short.²⁴ This need is calculated on the basis of the fact that the two counterparties with the greatest risk exposures and all counterparties with equity of less than SEK 100 million cannot simultaneously meet their commitments in the event of extreme but plausible price fluctuations.²⁵ The model is intended to cover the highest price fluctuations measured on various markets. The aim of the buffer is to intercept any fluctuations in RCaR and its size is determined by the size of the RCaR calculation.

OMX DM stress tests its exposures and monitors the results daily. In a situation where the RCaR calculation rises to such levels that the clearing capital is not deemed adequate, OMX DM can either reduce the risk exposure or increase the clearing capital. Both alternatives are workable, operationally speaking, in a variety of different ways.

The insurance is with OMX Capital Insurance AG (OMXCI), an authorised insurance company in Switzerland owned by OMX Treasury AB. OMXCI reinsures part of the commitments with the reinsurance company Radian Asset Insurance Inc. and holds a guarantee facility from Credit Suisse International. The insurance and guarantee are only paid out in the event of counterparty losses at OMX DM due to the counterparty failing to meet its commitments in accordance with OMX DM's derivatives rules and regulations. Both equity (SEK 253 million) and insurance are obtainable at short notice.

²³ The clearing capital at the turn of the year ought to have amounted to SEK 1,483m.

²⁴ The counterparties with the greatest risk exposure can be end-customers, who are anonymous to OMX DM, or clearing members.

²⁵ For individual derivatives, extreme price fluctuations are defined as 1.5 times greater than the fourth-largest price variation during the past two years (the so-called stress factor is 150 percent). For OMX index products, the stress factor is the highest value of the historically highest negative two-day price variation measured or the positive one-day variation, currently corresponding to the stock exchange decline over two days in October 1987 when the stock exchange fell by a good 12 percent. For other index products the stress factor is 2.

■ As well as its clearing capital, OMX DM has access to two credit lines in Swedish kronor for SEK 700 and 500 million, respectively, as well as smaller amounts in Norwegian, Danish and Icelandic kroner, and in euro for immediate disbursement. The parent company OMX AB further provides credit facilities so that liquidity will soon be available. See recommendation 7 for a description of OMX DM's liquid assets.

Considerations

The size of OMX DM's clearing capital is calculated on the working assumption that the two counterparties responsible for the greatest risk exposures and all counterparties with equity of less than SEK 100 million cannot simultaneously discharge their commitments in the event of extreme but plausible price fluctuations. In the present situation, the clearing capital amounts to SEK 1,403 million. The model for calculating clearing capital has been the subject of verification by Finansinspektionen in accordance with the *Swedish Securities Market Act (2007:528) (VpML)* and has been approved. In accordance with the Riksbank's and Finansinspektionens assessment, OMX DM uses a relevant automatic stress test (RCaR) to determine the size of the financial resources designed to cover any counterparty's losses. Automatic stress tests are performed daily.

An RCaR calculation in November 2007 showed a need to increase the clearing capital. In connection with this increase, OMX DM misassessed the size of the buffer. OMX DM increased the clearing capital in accordance with the RCaR calculation, but simultaneously decreased the buffer by mistake, meaning that the clearing capital did not increase sufficiently in accordance with the model.²⁶ The Riksbank and Finansinspektionen do, however, consider that the mistake was limited in terms of risk and judge that it indicates shortcomings in internal controls and audits (see recommendation 13 for a description, assessment and comments by the OMX organisation for risk management).

End-customer clearing has both advantages and drawbacks. One drawback is that, with OMX DM assessing its risk exposures, the end-customer's anonymity can create uncertainty. An anonymous end-customer may account for a considerable part of OMX DM's exposure. OMX DM cannot substantiate creditworthiness of anonymous end-customers or assess the risk of an anonymous end-customer being unable to meet its obligations. As a result, OMX DM might find itself having reason to assess the inherent risk in exposures to anonymous end-customers as being higher than that to known counterparties and adjusting its financial strength accordingly. There is reason, therefore, for OMX DM to have a knowledge of the counterparty to which it has exposures and particularly so in the case of those counterparties that account for the largest exposures.

The introduction of member clearing affords an alternative to end-customer clearing. In member clearing there is no need for OMX DM to know the customers' identity, as OMX DM only has a contractual relationship with the clearing members, not with the customers. The clearing members are the ones who have risk exposures vis-à-vis the customers and are responsible for managing those risks by raising the requisite collateral.

Assessment

The Riksbank and Finansinspektionen assess recommendation 5 as observed.

Comment

The end-customer's anonymity contributes to insecurity in OMX DM's risk assessment. During 2007 OMX DM has stepped up its work to reduce this insecurity, and as the first step OMX DM is offering, from 1 June 2007 inclusive, member clearing as an alternative to end-customer clearing. Member clearing involves OMX DM not having any risk exposure to customers, only to clearing members.

²⁶ OMX DM rectified the mistake at the start of February 2008 by increasing the clearing capital to SEK 1,483 million.

■ Recommendation 6: Default procedures

A CCP's default procedures should be clearly stated, and they should ensure that the CCP can take timely action to contain losses and liquidity pressures and to continue meeting its obligations. Key aspects of the default procedures should be publicly available.

OMX DM's derivatives rules and regulations specify what is meant by exchange member, clearing member and end-customer non-fulfilment, respectively. In addition, there is a description of the measures OMX DM can take in the event of default. Among other things, OMX DM can utilise pledged collateral, refuse completion and registration, partly or wholly compulsorily close out a clearing member's or end-customer's contract, purchase deliverable replacement instruments and sell the contract basis. OMX DM can also transfer end-customers' accounts and provide collateral from one clearing member to another. In *OMX Derivatives Market as a Counterparty*, which is available on the OMX homepage, there is a chapter describing the rules and the process on which OMX DM bases its actions in the event of non-fulfilment and a description of the five cases of non-fulfilment vis-à-vis OMX DM that have occurred since December 1989.

OMX DM has a formal committee, a "default committee", which can be convened at short notice. It has the authority to make a great many decisions relating to defaulting participants. Furthermore, the committee makes decisions as to whether OMX DM's own financial resources should be increased. The committee's routines are continually being scrutinised by OMX STO's board of directors. The final decision with reference to a participant defaulting is taken by OMX STO's CEO.

As described in recommendation 1 on legal risk, Swedish law permits pledged collateral to be realised.

Considerations

In accordance with the Riksbank's and Finansinspektionens considerations, OMX DM's rules and routines for handling counterparty's bankruptcy are clear, explicit and generally accessible. They enable OMX DM to handle a defaulting counterparty. OMX DM's derivatives rules and regulations lay down what is referred to as non-fulfilment and the measures OMX DM is entitled to adopt, such as claiming pledged collateral and closing down positions quickly.

OMX DM has observed recommendation 1 on legal risk, which, among other things, involves support provided by Swedish legislation for realising collateral pledged to OMX DM.

Assessment

The Riksbank and Finansinspektionen assess recommendation 6 as observed.

Recommendation 7: Custody and investment risks

A CCP should hold assets in a manner whereby risk of loss or of delay in its access to them is minimised. Assets invested by a CCP should be held in instruments with minimal credit, market and liquidity risks.

Administration of collateral

OMX DM does not itself administer the collateral pledged for commitments made as part of the clearing operation. Instead, such collateral is managed by a collateral institution, also called a depot or custodial bank, engaged by the end-customer or clearing member and approved by OMX DM. A list of collateral institutions approved by OMX DM will be found in Appendix 9 to the derivatives rules and regulations.

■ In order to be approved as a collateral institution, the institution is required, among other things, to have taxed capital in excess of SEK 500 million and otherwise be suitable as a collateral institution. The collateral institution is to keep collateral on behalf of OMX DM in a safe manner and report that adequate collateral has been furnished for that particular clearing account. The application to become a collateral institution is studied and approved by OMX DM, which also monitors the collateral institution on a continuous basis. Once the application has been granted, the collateral institution is admitted to OMX DM by drawing up a collateral institution agreement.

CCAB has two jobs: to guarantee that customer agreements are correct and to conduct annual random sampling in order to check that pledged collateral is acceptable and correct. Under certain circumstances, as when an end-customer cannot pay or there is some suspicion to this effect, OMX DM has the right to be told the end-customer's identity by CCAB.

A majority of collateral institutions are also clearing members at OMX DM and handle collateral on behalf of their customers. However, the collateral institution cannot administer its own collateral or collateral pledged by an affiliated company within the same group without their having to be administered by another collateral institution.

Management of the clearing capital

OMX Treasury manages OMX DM's capital and OMX Capital Insurance's liquid funds. Management must adhere to the OMX Group's investment policy for clearing capital. The capital and liquid funds must be invested in government stocks and housing bonds with a very low market and liquidity risk. The issuer of housing bonds is not allowed to be a clearing member in OMX DM.

OMX Treasury AB is a subsidiary of the OMX Group that handles the Group's liquidity management. The Treasury operation is run independently and is the subject of annual internal and external audits. The management remit from OMX DM and OMX Capital Insurance is regulated in agreements and OMX Treasury reports back regularly on the outcome of its management. Clearing capital funds under management are separated from other funds in the Group.

Considerations

OMX DM's capital is invested in assets with a low market and liquidity risk, meaning that the assets can be disposed of quickly with little adverse effect on prices.

Swedish collateral institutions, also called custodial banks, apply rules and routines which, according to the Riksbank and Finansinspektionen, fulfil recommendation 12 on protection of the customer's collateral in *Recommendations for Securities Settlement Systems (RSSS)*.²⁷ The Riksbank and Finansinspektionen find that OMX DM's method of safekeeping collateral in custodial banks rather than holding them itself may result in certain delays in the process of disposing of collateral, but the rules and routines applied to a collateral institution prevent delays of any significance.

Assessment

The Riksbank and Finansinspektionen assess recommendation 7 as observed.

Recommendation 8: Operational risk

A CCP should identify sources of operational risk and minimise them through the development of appropriate systems, controls and procedures. Systems should be reliable and secure, and have adequate,

²⁷ www.riksbank.se

■ *scalable capacity. Business continuity plans should allow for timely recovery of operations and fulfilment of a CCP's obligations.*

OMX DM's operational risks are included in the analysis of all the OMX Group's risks, which is conducted annually and updated semi-annually. This is done as an integral part of a comprehensive risk analysis in accordance with what is known as the COSO ERM Framework²⁸, which results in an assessment of different types of risk in terms of probability and effect. Action plans are drawn up with a view to reducing the risks. The ERM approach is designed to cover all kinds of risk, such as corporate risk, market risk, business risk (includes counterparty's related risks), operational risk, financial risk and other types of asset-related risk. The risk analysis work has been organised around the OMX Group's business areas, not legal entities. The process is coordinated by Risk Management & Control and is controlled by the "Enterprise Risk Management Policy" within the OMX Group. Risks of major importance that come to light during the inspection are reported on to OMX DM's executive management. Any risks thereby deemed essential are also reported to the executive management of OMX Nordic Exchange Group Oy. The inspection is also used as a support in analysing the volume of capital required to cover OMX DM's operational risks. To analyse the capital requirement, an analysis of historical events is used as well.

Operational risks are also analysed outside of these semi-annual reviews, for instance in conjunction with the auditing of new projects or new products. In these contexts, too, risks of major importance are reported to OMX DM's management and in certain cases to the board of OMX Nordic Exchange Group Oy. Responsibility for reporting risks rests with each line manager, but Group Risk Management and Control coordinate and quality control the reporting process so that all material operational risks are reported further within the organisation.

The technical systems for trading and clearing derivatives, CLICK and SECUR, together with the equities trading system, SAXESS, are at the focal point of the work on operational risk. OMX DM has ultimate responsibility for trading and clearing operations, while the regular running and monitoring of the system is performed by the business area OMX Market Technology²⁹. Operation of the system is therefore outsourced and regulated by an agreement between OMX Market Technology and OMX DM, but the task is still located within the OMX Group.

The agreement regulates details relating to:

- scope of the systems
- service levels
- delivery and modification routines
- requirement for security routines in operations and development
- action in the event of system disruptions
- follow-up and checking routines

The agreement involves, among other things, that the technical monitoring and support for members is available twenty-four hours a day, seven days a week. OMX DM continuously follows up the outcome of OMX Market Technology's commitments vis-à-vis the agreement. Regular reconciliation and follow-up meetings are held between the parties.

OMX DM has full responsibility for ensuring that systems meet functional requirements and that the level of service is maintained in accordance with requirements. Systems owners appointed at OMX DM are responsible for system production and development complying with set requirements and in-house guidelines.

²⁸ Committee of Sponsoring Organization of the Treadway Commission Enterprise Risk Management Framework (COSO, 2003).

²⁹ Prior to 1 January 2006, this constituted a division called OMX Technology.

■ Operation of OMX DM's system is effected on two identical, separate computer installations working in parallel. The two computer installations have an independent infrastructure and are located at two separate sites geographically. All members are connected to both installations and are recommended to use both. They are dimensioned so that each one can cope with the entire load on its own, should the need arise.

Should it become impossible for OMX DM to run operations from its head office, there are also standby premises for the operational work. OMX DM has an incident organisation and a continuity plan. The plan is regularly tested together with the clearing organisations to which OMX DM has clearing links, including tests that entail physically moving the requisite personnel from head office to the standby premises. The objective, which is also achieved in the tests, is for relocation to take between 45 and 75 minutes. The participants are not aware of the continuity plans in case of both computing installations being unavailable, e.g. in the event of software-related problems. In the event of shutdown of the SECUR application, this will involve OMX DM applying its standby routines and, depending on the actual situation in hand, providing members with instructions as to how to act.

If the clearing application SECUR is inaccessible, a standby plan and guidelines do exist, explaining how OMX DM is to act. The clearing and settlement operation has developed a manual standby routine in the event of malfunctions in computer communications and software-related system errors. Among other things, this involves OMX DM giving members ongoing instructions on how to act in the actual situation. Thus, members have no prior knowledge about standby routines other than those relating to technical disruptions in any of the computer installations.

In cases where communications systems are not working, OMX DM communicates by phone or fax. Lists of contacts, phone numbers and fax numbers are available to all members. The list is regularly updated.

There are documented, tried and tested standby routines in place should one or more support applications (RIX, SWIFT, VPC and CLICK) not be accessible. The policy for OMX DM's computer security is based on ISO/IEC 17799.

The objective for system availability between 8 a.m. and 6 p.m. is at least 99.90 percent. During 2007 the system was available 100 per cent of the uptime.³⁰

Considerations

The analysis of operational risks is performed for each business area within the OMX Group. OMX DM identifies various types of operational risks and there is a policy for handling operational risks at group level. OMX DM has an incident organisation and a continuity plan, which is regularly tested with the clearing organisations to which OMX DM has clearing links. Operational risks are scrutinised and reported semi-annually to OMX DM's executive management. OMX DM works on testing various types of potential operational incidents with its participants. During the past 12 months, system availability has been 100 percent.

Assessment

The Riksbank and Finansinspektionen assess recommendation 8 as observed.

Recommendation 9: Money settlements

A CCP should employ money settlement arrangements that eliminate or strictly limit its settlement bank risks, that is, its credit and liquidity risks from the use of banks to effect money settlements with its participants. Funds transfers to a CCP should be final when effected.

³⁰ "Downtime" means non-availability for trading in the trading system CLICK and those parts of SECUR that provide real-time information during the measuring period (trading days, 8 p.m. – 6 p.m.). Thus, problems in SECUR during evening and nighttime processes do not trigger any downtime. For a detailed description of the concept of downtime, see FMSA Schedule 4 Service Level Description.

■ Cash settlements in Swedish kronor, which make up more than 90 per cent of OMX DM's payments, are effected in the Riksbank's RTGS system, RIX. OMX DM is a participant in the RIX system. Apart from Swedish derivatives OMX DM offers trading and clearing of Finnish, Danish, Icelandic, Baltic and Russian derivatives. OMX DM also operates a link cooperation with the derivatives exchanges in Norway and the UK. As a consequence of this, OMX DM also has payments in Norwegian, Danish and Icelandic kroner as well as euro and US dollar.

Settlement in Danish kroner takes place in the same way as in Sweden, directly through the *Danmarks Nationalbank* payment system, KRONOS, of which OMX DM itself is a member.

For settlement in Norwegian and Icelandic kroner as well as euro and US dollars, OMX DM engages a liquidity bank for each different currency. Each liquidity bank, unlike OMX DM, is a member of the relevant payment system. Clearing members make payments in these four currencies to OMX DM's account in Nordea in Norway, Kaupthing Bank in Iceland, SEB in the UK and Nordea in Finland. In cases where OMX DM uses a liquidity bank, however, participants need not have an account with the liquidity bank. Using a liquidity bank means that OMX DM is taking a risk on the liquidity bank that other participants settling directly at the central bank do not.

OMX DM continually verifies that cash settlements are being effected in accordance with current instructions. In RIX and KRONOS, OMX DM confirms that the payments are correct prior to settlement. Payments and account balances at the liquidity bank in question are checked daily. Each liquidity bank is a member of the local central banks' payment system in the relevant country and is an approved collateral institution in accordance with OMX DM's derivatives rules and regulations. OMX DM constantly oversees the liquidity bank's financial strength.

The six payment systems used for OMX DM's cash settlements in Swedish, Danish, Norwegian and Icelandic kronor/kroner as well as euro and US dollars provide "intraday finality", which is to say that they enable a payment order to be settled no later than the same day. Sweden, Denmark, Norway, Finland, Iceland and the UK have all incorporated the Finality Directive and thus fulfil the principle of "intraday finality". Furthermore, RTGS systems in all countries apart from Iceland have been evaluated in accordance with *CPSS Core Principles for Systemically Important Payment Systems*³¹.

Considerations

The main part of cash settlement takes place in Swedish and Danish kronor/kroner and through a central bank payment system, i.e. in central bank money. Recommendation 9 is thus observed. A minor proportion of the cash settlement takes place in Norwegian and Icelandic kroner as well as euro and US dollars. Those participants who are members of the central banks' payment system settle in central bank money, whereas OMX DM takes a risk when settling through a liquidity bank. OMX DM has approved the liquidity bank in accordance with standards for collateral institutions and continually oversees the liquidity bank in question. All relevant payment systems are deemed to provide "intraday finality" and have been assessed in accordance with international standards.

Assessment

The Riksbank and Finansinspektionen assess recommendation 9 as observed.

Recommendation 10: Physical deliveries

A CCP should clearly state its obligations with respect to physical deliveries. The risks from these obligations should be identified and managed.

³¹ Core Principles for Systemically Important Payment Systems, January 2001, CPSS, BIS. See www.nationalbanken.dk for Denmark and www.imf.org for the IMF's assessment of payment systems in Finland and Norway.

■

In accordance with OMX DM's derivatives rules and regulations, part of OMX DM's role as central counterparty involves delivering and taking receipt of securities. The rules provide the option of OMX DM fixing and demanding a fee from any counterparty failing to deliver securities as agreed as well as compensation for costs arising in connection with the delay. The rules entitle OMX to charge a fee for delayed delivery, but in accordance with practice this right is not applied. In exceptional cases, however, a member can be required to defray the costs arising in connection with delayed delivery.

In order to facilitate delivery of securities to its counterparties, OMX DM has a securities lending agreement with two financial institutions. Alternatively, OMX DM can buy securities, make part-deliveries of securities or wait to complete delivery pending delivery from the counterparty obliged to deliver securities.

Delivery and storage of securities are effected in dematerialised form and managed by the central securities depositories; VPC in Sweden³², VP in Denmark³³, VPS in Norway³⁴, ISD in Iceland and APK in Finland³⁵. In Sweden, Finland, Denmark and Iceland OMX DM is a member of the relevant settlement system and despatches and checks all securities instructions. OMX DM is not a member of the Norwegian settlement system but uses Nordea as custodial and settlement bank in Norway. Nordea handles delivery to and from clearing members and monitors all deliveries. Delivery of Russian depository receipts is effected through DTCC or Euroclear. OMX DM uses SEB London as a custodial bank for deliveries of Russian depository receipts.

Payment and delivery are effected in accordance with the routines applied by the respective securities depositories and in accordance with current contract specifications. Delivery is always effected in accordance with the principle of delivery-versus-payment (DvP). Hence, no credit risks arise during the settlement process. The total balance on each security account with OMX DM at the end of each day must be equal to zero.

The principal risk remaining is the replacement cost risk. The replacement cost risk is equivalent to the cost that can arise if a party to a transaction fails to receive a security in time and therefore has to obtain a specific security itself in order to be able to meet its obligations. For OMX DM the replacement cost risk for derivatives is the difference between the derivatives contract strike price compared with the underlying market price of the security, and for futures the difference between the price of the future and the underlying security's market price. The size of the price differential determines how great the risk is. OMX DM can find itself without securities for a counterparty that is behind on its security delivery. OMX DM handles this risk in the same way as the open exposures that occur overnight in the other clearing operation, i.e. through the counterparty's limits and coverage with clearing capital.

Considerations

OMX DM's derivatives rules and regulations contain clear rules detailing how delivery of a security is to be effected. The derivatives rules and regulations also regulate how OMX DM can act in the event of delayed deliveries. Since delivery of a security is managed by a central securities depository in accordance with the principle of delivery-versus-payment (DvP), no credit risks arise during the settlement process. However, there can be replacement cost risks in the event of a counterparty not being able to deliver a security on time. To facilitate delivery of a security to its counterparties, OMX DM has securities lending agreements in place with two financial institutions.

Assessment

The Riksbank and Finansinspektionen assess recommendation 10 as observed.

³² See the assessment of securities settlement in Sweden, www.riksbank.se.

³³ See the assessment of VP, www.nationalbanken.dk

³⁴ See the assessment of VPS, www.norges-bank.no

³⁵ See the assessment by comparison with ECB User Standards, www.ecb.int.

■ Recommendation 11: Risks in links between CCPs

CCPs that establish links either cross-border or domestically to clear trades should evaluate the potential sources of risks that can arise, and ensure that the risks are managed prudently on an ongoing basis. There should be a framework for cooperation and coordination between the relevant regulators and overseers.

In December 2007 OMX DM had links to two exchanges and two clearing organisations. These links make possible cross-border trading and central counterparty clearing. The exchanges and clearing organisations to which OMX DM has links are:

- EDX London Exchange and LCH.Clearnet Ltd.
- Oslo Stock Exchange and VPS Clearing ASA

Through the link with LCH.Clearnet, participants at the EDX London, Oslo and OMX DM are offered a chance to trade Nordic derivatives with one another. The link is subject to British law. Through the link with the Oslo Stock Exchange, OMX DM's participants are offered a chance to trade derivatives admitted for trading on OMX STO and the Oslo Stock Exchange that have been cleared by OMX DM or VPS Clearing, respectively. The link is subject to Norwegian law.

Both links have been designed so that the exposure a participant builds up by trading derivatives on a linked exchange is taken over by the clearing organisation in which it is a participant. The upshot of this is that the clearing organisations included in the links only have exposures to their own participants and the participants only have exposures to their own clearing organisation. The clearing organisations, in turn, have exposures to one another. Thus, for example, OMX DM has an exposure to each linked clearing organisation corresponding to the net exposure of OMX DM's participants.

The Oslo Stock Exchange has a link to the EDX London Exchange but VPS Clearing, the Oslo Stock Exchange clearing organisation, has no link agreement with LCH.Clearnet. As a result, participants at the Oslo Stock Exchange can trade with participants on the EDX London Exchange, but VPS Clearing does not furnish collateral for the resulting exposures directly. OMX DM therefore acts as a hub in the link cooperation, which means that the Oslo Stock Exchange pools these exposures with its participants' exposures to OMX DM and furnishes collateral corresponding to the net in relation to OMX DM. OMX DM, for its part, furnishes collateral for its participants and VPS Clearing's participants' net in relation to LCH.Clearnet.

The link agreement specifies how the clearing organisations are to provide collateral for their exposures to one another. The collateral requirement is somewhat lower for a clearing organisation than for a customary clearing member with the same exposure. In addition, OMX DM and each linked clearing organisation have specified the legal system and rules and regulations to be applied during the various trading and clearing stages.

For each link OMX DM has conducted a study (due diligence) that includes a historical outline, organisation, management, risk management, liquidity management, clearing, calculation and handling of collateral, stress testing, IT operations, legal basis and various control functions. In addition, OMX DM has analysed the various risks that can arise as a result of the link—including legal risks, operational risks, credit risks and liquidity risks. Ongoing monitoring of each linked clearing organisation is in progress when the link is in place.

Finansinspektionen has established cooperation on supervision with its equivalents in Norway and Great Britain.

Considerations

OMX DM has analysed the risks that can arise as a result of the links and has taken these into consideration in its risk management plan. The laws and agreements that regulate the various links between clearing organisations have been specified and are sufficient in the Riksbank's and Finansinspektionens assessment.

■ Finansinspektionen has established cooperation on supervision with its equivalents in those countries whose exchanges OMX DM has links to.

Assessment

The Riksbank and Finansinspektionen assess recommendation 11 as observed.

Recommendation 12: Efficiency

While maintaining safe and secure operations, CCPs should be cost-effective in meeting the requirements of participants.

Clearing members encounter a number of different costs associated with derivatives clearing. These include member fees for both derivatives exchanges and the clearing organisation, charges per transaction, costs associated with furnishing collateral and costs associated with meeting the organisational, competence and technical equipment requirements that OMX DM imposes on its members.

The last time OMX DM made a formal comparison of costs was in 2002. The cost per contract was then higher at OMX DM than at its foreign competitors. The cost per contract was SEK 4.9 for OMX DM, SEK 4.4 for LCH Clearnet and SEK 3.3 for Eurex. Since then OMX DM's cost per contract has decreased, which is due to cost savings and volume increases on the integration of Danish, Finnish, Icelandic and Baltic derivatives in OMX DM.

Although OMX DM is the only clearing organisation for derivatives on the Swedish market, it does encounter some competition. Competition arises from participants being able to opt to trade certain products OTC instead of going through derivatives exchanges and thus not making use of a clearing organisation at all. In addition, there are products—warrants, for instance—which are a substitute for the derivatives products traded on OMX DM. There is nothing to stop other derivatives exchanges and clearing organisations being able to offer trading and clearing of the same contract as OMX DM if it seems to be profitable. OMX DM has lowered its prices for specific products during recent years, which may be some indication that a certain amount of competition does exist.

OMX annually investigates how satisfied participants are with OMX services. The first survey for derivatives clearing was conducted in 2001 and follow-up surveys have since been done annually. The main aim is to measure participants' confidence in the market place and clearing services, and in OMX DM as a whole. The survey is divided into three different questionnaires: one for derivatives trading, one for risk management and one for derivatives clearing. The latter two are related to the central counterparties' services in OMX DM. The participants in the 2007 survey were satisfied with OMX DM's clearing, trading and risk management.

Suggestions from the participants in derivatives clearing are handled through various channels: in part there is direct contact with the participants, and in part OMX DM arranges specific forum targeting different participant groups. There is a clearing forum and reference group meetings at which proposals for operational clearing activities, system changes and products can be discussed. In addition, there is a risk management forum in which participants can table motions concerning risk management. There is also a forum for IT discussions as well as one for derivatives, where trading and product-related questions are discussed.

Suggestions and views can also be put forward on the Derivatives Market Committee, which is regularly convened by OMX DM together with the Swedish Securities Dealers Association. The Derivatives Market Committee consists of market participants in derivatives clearing. Proposals for changes to the derivatives rules and regulations, which are updated semi-annually, are discussed on the Derivatives Market Committee.

During autumn 2007 the Riksbank and Finansinspektionen jointly interviewed a selection of the clearing members in OMX DM. According to those interviewed, OMX DM's computer system was reliable and

dependable, and the technical support service was considered highly functional. OMX DM does not separate the fee for trading and clearing, whereas such separation is common internationally. Several clearing members would like to see increased transparency in pricing. Some express the view that it would be desirable to have some separation of trading and clearing fees. The clearing members interviewed were satisfied with the forms of information provided by OMX and consider these to have improved in recent years.

OMX DM regularly follows up on its system availability. During 2007 accessibility was 100 percent. This is described in recommendation 8.

Considerations

It is difficult to make cost comparisons between OMX DM and its equivalents, owing to the fact that the services available from these vary. OMX DM is the only clearing organisation for derivatives on the Swedish market and competition arises purely from OTC trading.

OMX DM follows up to see how satisfied participants are with the clearing services in a survey conducted annually.

Availability of OMX DM's system is high and OMX DM regularly follows it up.

Assessment

The Riksbank and Finansinspektionen assess recommendation 12 as observed.

Recommendation 13: Governance

Governance arrangements for a CCP should be clear and transparent to fulfil public interest requirements and to support the objectives of owners and participants. In particular, they should promote the effectiveness of a CCP's risk management procedures.

This recommendation deals with the company's organisation, governance and risk management arrangements. In the Group's legal structure, OMX Nordic Exchange Stockholm AB (OMX STO) is a subsidiary of the OMX Nordic Exchange Group Oy, which in turn is a subsidiary of the stock exchange-listed OMX AB. The derivatives business is operated within the business area OMX DM, which has also been registered as an affiliate of OMX STO.

Among others, the board of directors of OMX Nordic Exchange Group Oy consists of the MD of OMX AB, the MD of OMX STO and a number of external directors. The board of OMX STO consists of internal members. OMX AB has set out guidelines governing the division of responsibility between the subsidiaries and also a decision-making policy. The make-up of the board of OMX STO is determined by its owners (OMX AB). Finansinspektionen conducts suitability testing of the board's members. Suitability requirements require, among other things, the board to have sufficient combined experience of the financial markets. The board of OMX STO has described clearly the decisions that have been delegated to the MD and his responsibilities and powers.

OMX DM works with two groupings of market participants to collect feedback on its clearing services. One is the Derivatives Market Committee, which focuses primarily on trade-related issues, and the other is the Clearing Group, which focuses on clearing issues pure and simple.

OMX AB has clear objectives for its business. OMX's overarching strategy is to offer efficient security transactions. The vision is to become world-leading in rationalising and streamlining securities trading.

At group level OMX's objective is to:

- Develop and benefit from OMX's position within the stock exchange industry as an owner of stock exchanges and a supplier of technology to stock exchanges.
- Develop the OMX Nordic Stock Exchange as one of the most attractive exchanges in Europe.
- Bolster OMX's top position in technical solutions for stock exchanges, clearing organisations and securities settlement.

Information about the OMX Nordic Exchange Group's organisation as well as its and OMX STO's board of directors can be found on OMX AB's homepage, but it is hard to glean what exactly applies to OMX STO, as the information focuses on the OMX Group and OMX AB. Important boardroom resolutions are publicised through press releases, and general information about OMX STO is available through e.g. the Swedish Companies Registration Office.

OMX DM's risks are assessed and handled by the Risk Management Department. The head of this department reports directly to the head of the OMX DM business area but also has specific obligations to report risks straight to the MD of OMX Nordic Exchange Group Oy and to its board. A risk report is prepared for each board meeting, containing information that includes counterparty risks, market risks and important decisions affecting risk management.

Part of the Risk Management Department's remit is to calculate RCaR, which gauges the need for capital to cover any counterparty's losses if there is a shortfall in the collateral pledged. If the RCaR calculation shows that the clearing capital has to be increased, the Risk Management Department informs the Treasury Department to this effect, whose task it is to raise the new clearing capital. At the end of 2007 the RCaR calculation showed that there was a need to increase the clearing capital (read more about this in recommendation 5). The Treasury Department then effected an increase in the clearing capital, but this increase was not sufficient according to the model and OMX did not discover the actual mistake. This indicates shortcomings in the executive functions and internal auditing regime.

Considerations

OMX DM is a registered subsidiary of OMX STO. The board of OMX STO is responsible for decisions affecting central counterparty clearing. The public information about OMX STO's own governance is difficult to make out, as the information is focused on the OMX Group and OMX AB.

The Risk Management Department has specific obligations to report risks directly to the head of the business area, OMX DM and to the MD and board of OMX Nordic Exchange Group Oy. The annual report includes feedback on OMX Nordic Exchange Group Oy's targets and accomplishment of its objectives, which are subsidiary objectives of the OMX Group. The division of responsibilities and routines that make up OMX's company governance is clear and functions smoothly.

Finansinspektionen and the Riksbank have identified gaps in OMX DM's internal auditing to check that the actual size of the clearing capital is correct. It is essential for OMX DM to be in complete control of ensuring that its financial resources are adequate, as this is fundamental to a central counterparty.

Assessment

The Riksbank and Finansinspektionen assess recommendation 13 as broadly observed.

Comment

Given the shortcomings identified in OMX DM's internal audits to check that the actual size of the clearing capital is correct, OMX DM should revert to Finansinspektionen and the Riksbank with proposals for measures to be taken to redress these shortcomings.

■ Recommendation 14: Transparency

A CCP should provide market participants with sufficient information for them to identify and evaluate accurately the risks and costs associated with using its services.

OMX DM provides the following information on the Internet:

- OMX DM's derivatives rules and regulations
- Information about legal support for clearing
- Costs associated with clearing
- Statistics on the transaction volumes in the derivatives trade, in the form of both turnover and the number of outstanding contracts
- A considerable amount of information about OMX DM's company governance can be gleaned from the information available for the OMX Nordic Exchange Group Oy

OMX's homepage is divided into three headings: the Nordic Market, the Baltic Market and First North. Under the heading of the Nordic Market there is a direct reference to the derivatives market.

OMX DM's derivatives rules and regulations support the various aspects of derivatives clearing. They set out particulars of risk management policy and security policy, if and when OMX DM takes on counterparty risks, rights and obligations for OMX DM, and handling of participants in a bankruptcy situation. Recommendation 1 on legal risk contains a more detailed description of the derivatives rules and regulations.

OMX DM provides information about its operation, the organisation and operation of its risk management function, bankruptcy management, historical bankruptcy logging and its routines for handling securities. In the publication *OMX Derivatives Market as a Counterparty*, OMX DM gives a clear description of its activities in a simpler version than the derivatives rules and regulations, accounting among other things for participants' rights and obligations vis-à-vis OMX DM, and OMX DM's risk management.

OMX DM conveys its commitment as a central counterparty in a clear manner, both on the Internet and in *OMX Derivatives Market as a Counterparty*. From the Internet it emerges that "As a central counterparty OMX Derivatives Markets undertakes to act as legal counterparty in all transactions and thus to guarantee the performance of the transaction, irrespective of whether any counterparty should end up in payment or delivery difficulties". However, restrictions on OMX DM's commitment to deliver securities on an appointed day are only described in the derivatives rules and regulations.

All information published on the Internet is in English. In addition, the bulk of the information is available in Swedish, Danish, Finnish and certain sections also in Icelandic. The publication *OMX Derivatives Market as Counterparty* is only available in English.

Considerations

In accordance with the Riksbank's and Finansinspektionens assessment, recommendation 14 requires both OMX DM's existing participants and potential participants to be given the information required to assess the risks and costs associated with the central counterparty. The information required to satisfy this recommendation therefore needs to be readily accessible. Since OMX DM operates end-customer clearing, the information requirement is even stricter, as end-customers who are not professional financial players must also be able to avail themselves of OMX DM's information. The information therefore has to be clear, easy to understand and readily accessible.

The Riksbank and Finansinspektionen consider that, to all intents and purposes, OMX DM gives its participants the information they need to assess the risks and costs associated with OMX DM's derivatives clearing.

- The publication *OMX Derivatives Market as Counterparty* provides clear information about OMX DM's operations and matches the degree of clarity considered appropriate by the Riksbank and Finansinspektionen.
- OMX DM publishes answers to the questions in *Recommendations for Central Counterparties*, published by the Committee for Payment and Settlement Systems (CPSS) and the Technical Committee of the International Organization of Securities Commissions (IOSCO) in November 2004.
- The Riksbank and Finansinspektionen publish their assessment of OMX DM's operations as a central counterparty.

All information is available in accordance with the requirements in Recommendation 14. However, further elucidation of OMX DM's commitment to securities delivery, so that it reflects the exceptions set out in the derivatives rules and regulations, is desirable. This should be available in *OMX Derivatives Market as Counterparty* and other publicly disclosed information. Furthermore, statistics on the accessibility of OMX DM's clearing system for derivatives is missing.

Assessment

The Riksbank and Finansinspektionen assess recommendation 14 as observed.

Comment

OMX DM intends to publish quarterly statistics on the value of the securities that have been pledged to OMX DM (in Appendix 8 of *OMX Derivatives Markets as a Counterparty*). The Riksbank and Finansinspektionen consider that OMX DM should publish availability statistics for derivatives clearing in SECUR, also detailing how availability looks in relation to the availability target. In addition, the description of OMX DM's commitments in terms of securities delivery should be clarified in *OMX Derivatives Markets as a Counterparty* and other publicly disclosed information.

Recommendation 15: Regulation and oversight

A CCP should be subject to transparent and effective regulation and oversight. In a domestic and international context, central banks and securities regulators should cooperate with each other and with other relevant authorities.

In this recommendation the Riksbank and Finansinspektionen individually account for the supervision and monitoring work conducted in relation to the requirements set by the recommendation. Subsequently, a succinct description is given of the cooperation between the authorities with regard to financial stability. The purpose is to enable the readers to assess the extent to which the authorities fulfil the requirements in this recommendation. The Riksbank and Finansinspektionen refrain from assigning an assessment category to their own oversight/supervisory work..

Finansinspektionen

Regulation and supervision

In order to run a clearing operation in Sweden, a licence is required in accordance with *the Swedish Securities Market Act (2007:528) (VpML)*. OMX Nordic Exchange Stockholm AB has been granted such a licence by Finansinspektionen, which also exercises supervision. For its supervision Finansinspektionen has the right to request whatever information it requires from both OMX DM and anyone else.

■ Finansinspektionen is also entitled to conduct investigations on the spot. If OMX DM fails to meet the requirements for operating a clearing company, Finansinspektionen has the right to revoke the licence, with the implication that the operation has to cease trading. Finansinspektionens rights are set out in *the Swedish Securities Market Act (2007:528) (VpML)*, *the Swedish Act on Systems for Settlement on the Financial Market (1999:1309)* and *the Swedish Financial Instruments Trading Act (1991:980) (LHF)*. Apart from companies licensed to operate stock exchange and clearing business, these regulations also cover the clearing participants.³⁶

The supervision of stock exchange and clearing organisations is exercised on an ongoing basis, primarily by a supervisory group of three people at the Department of Market Supervision. Licensing matters and support on legal issues is dealt with by the Legal Department, which has two legal experts specialising in stock exchanges and clearing. Questions of supervision and analyses of particular risk areas are handled by the Department of Stability Supervision's risk analysis units, which conduct surveys on the basis of the current supervision plan.

Objectives of the supervision

Finansinspektionen is the authority responsible for supervising of the financial markets, marketplaces and financial enterprises. Its overarching objectives are to promote stability and efficiency in the financial systems as well to ensure an effective consumer protection. In order to achieve these objectives, Finansinspektionen issues regulations for financial operations, grants authorisations, carries out supervision and analyses changes in the financial environment. Companies under Finansinspektionens supervision encompass, among others, banks and other credit institutions, security firms, trusts and fund management companies, stock exchanges, clearing organisations and insurance companies.

In the financial sector risks are not evenly distributed, since companies under Finansinspektionens supervision vary in size and type. Finansinspektionen therefore applies a supervisory strategy with two-tier risk assessment. In the first stage financial companies are categorised by their significance on the financial market. Both the focus and the scope of the company are considered. The second stage assesses the likelihood of disruptions to the company, taking into account risk of contagion, among other things. Companies are then divided into four different categories based on size and corporate content. Finansinspektionen assesses any acute problems, or more long-term risks of disruptions, then determines the intensity of the supervision, the analyses conducted and the supervisory measures to be taken.

The highest-priority companies are currently the four large banking groups and OMX STO and VPC. Individually, these are each determined to have a significant effect on the financial market and will therefore be made the subject of more intense scrutiny and supervisory measures.

Finansinspektionens overall objective and corporate directions are set out, inter alia, in the annual report and the corporate focus document. These and other documents are available on its website (www.fi.se), which also includes various supervisory reports, for instance the annual report on the stability of the financial services sector. The report "Clearing and settlement risks" (FI Dnr 02-3436-000) describes the settlement risks in systemically important institutions, how the supervision of these is conducted and how it should be conducted in the future in order to guarantee compliance with the requirements stipulated in the rules, regulations and international standards. In addition, the division of roles between Finansinspektionen and the Riksbank is discussed.

Regulatory reporting

Finansinspektionen regularly meets with representatives from OMX STO to review all changes in operations in accordance with a fixed agenda, which includes changes in products and services, organisation, systems and sets of rules. On a quarterly basis OMX STO reports financial information to Finansinspektionen. For key events, for instance OMX STO being unable to meet its commitments to customers or in the event of a

³⁶ Participants planning to take part in clearing operations for third-party account are required to be either a financial institution under Finansinspektionen's supervision or a foreign company subject to equivalent supervision in its homeland. Clearing participants planning to participate in clearing operations for own account only and not under the Authority's or equivalent supervision in their homeland are bound, on the Authority's request, to submit information on the conditions governing their participation in such clearing operations.

■ fault in its technical systems, there is a duty to report in accordance with Finansinspektionens general guidelines. The duty to report on outsourced operations is incumbent on OMX STO. A prerequisite for outsourcing is that Finansinspektionen has full insight through OMX STO.

Cooperation with foreign authorities

Finansinspektionen has made a separate agreement with the Finnish and Danish supervisory authorities, Rahoitustarkastus and *Finanstilsynet*, concerning cooperation on the supervision of stock exchange and clearing companies within the OMX Group. The aim of the cooperation is to ensure an effective and comprehensive supervision. The authorities meet regularly to exchange information, confer on cross-border issues and conduct joint surveys and investigations. Finansinspektionen also enjoys cooperation with its counterpart in the UK in order to conduct supervision via the link between OMX STO and LCH.Clearnet.

The Riksbank

In its function as central counterparty in the clearing of derivatives instruments, OMX DM is of importance to the stability of the financial system and hence to the Riksbank's oversight work.

Oversight

The basis for the Riksbank's oversight role can be found in *Sveriges Riksbank Act*³⁷, in accordance with which Riksbanken is responsible for promoting a safe, secure and efficient payment system as well as providing emergency liquidity assistance, i.e. acting as lender of last resort. The Act also gives the Riksbank the right to ask institutions for any such information as it deems necessary in its oversight work.

Based on the responsibility set forth in Sveriges Riksbank Act, the Riksbank has identified two overarching goals for its work on financial stability; to work to reduce the risk of a crisis arising in the financial system in Sweden and hence the risk of needing to assist institutions with emergency liquidity assistance. If a crisis does arise, nevertheless, the Riksbank must also have the capacity to handle the crisis at as low a cost to society as possible, i.e. have a satisfactory crisis management capability.

The Riksbank's monitoring of systemically important financial infrastructure constitutes a central part of the work to reduce the risk of a financial crisis. At the root of this monitoring is an analysis of the risks arising in clearing and settlement of payments and security transactions. In its monitoring work The Riksbank identifies the extent to which such risks have been managed through market practice or by formulating rules and routines or technical systems. If the Riksbank identifies a shortcoming in the risk management, it attempts to initiate a change or an investigation into the measures that should be adopted. However, The Riksbank has no legal scope for demanding action from market players. Instead, it attempts to induce players to act through "moral suasion". One reflection of this is the publication of its oversight work results in the Riksbank's report *Financial stability*.

The Riksbank has deemed OMX DM to be system-critical in its role as central counterparty in derivatives clearing despite the fact that the values being handled are relatively low. The assessment is based on the fact that the counterparty risks that the parties in a transaction would have had vis-à-vis each other are assumed by OMX DM instead in connection with clearing, when it acts as a central counterparty. There is thus a risk of disruptions at OMX DM spreading to other institutes and other parts of the payment system. All derivatives traded on OMX DM are automatically cleared in OMX DM's system. Those trading with these derivatives therefore have no alternative but to make use of OMX DM's central counterparty service. As part of its oversight of the financial infrastructure, therefore, the Riksbank annually evaluates OMX DM's activities as a central counterparty in derivatives clearing in accordance with CPSS and IOSCO's international standards, *Recommendations for Central Counterparties*.

In its monitoring of OMX DM, the Riksbank endeavours to ensure that OMX DM has sound management of the counterparty risks, firm financial resources and routines that minimise settlement risks. Evaluating OMX

³⁷ Act (1988:1385) on Riksbanken Riksbanken Riksbanken Riksbanken of Sweden

■ DM's role of central counterparty against CPSS-IOSCO's *Recommendations for Central Counterparties* forms an important part of the Riksbank's oversight work. If risks or efficiency losses are pinpointed, these are highlighted with an intention to bring about a change.

At the Riksbank, the Financial Infrastructure Division in the Financial Stability Department works on oversight of the financial infrastructure. The division employs a total of eight people, three of whom work with securities clearing and settlement issues. In addition, specialist skills in the fields of risk management, law and IT are available at the Riksbank.

The Riksbank published a general description of its role in 1995³⁸. A presentation of The Riksbank's view of its oversight responsibility was published in 1997³⁹ and a description of the oversight role was published in 2001⁴⁰. These publications together with speeches and responses to consultations concerning the financial markets are collected on the Riksbank's website. The results of the Riksbank's oversight work with OMX DM are presented in the *Financial Stability* report. The complete assessment of OMX DM is also available on the Riksbank's homepage.

Collection of oversight information

Under Sveriges Riksbank Act, the Riksbank is entitled to receive all the information it considers necessary to discharge its remit. To obtain information, the Riksbank draws on a number of information channels. These include:

- Quarterly meetings, at which representatives from the Riksbank meet representatives from OMX STO to discuss OMX DM's operations as central counterparty. These meetings focus on OMX DM's activities, system operations and risk management.
- Analysis of the clearing system SECUR's availability in the RIX system. Since OMX DM's cash settlement is effected in Riksbank's payment system, RIX, the system's technical robustness can be analysed on the basis of accessibility in RIX.
- An annual assessment of OMX DM as central counterparty in accordance with international standards. The assessment requires OMX DM to provide updated information.

As part of its international work, the Riksbank also participates actively in collecting information and statistics for a variety of purposes.

Cooperation between the Riksbank and Finansinspektionen

In 2003, the Riksbank and Finansinspektionen made an agreement on cooperation in the area of financial stability. In 2005 the agreement was revised, partly so as also to include the Swedish Ministry of Finance. By means of the agreement the authorities have agreed on guidelines for consultations and an exchange of information in their work on financial stability and crisis management.⁴¹

In autumn 2005, the Riksbank and Finansinspektionen decided to expand their cooperation to include a joint assessment of the Swedish clearing and settlement systems.⁴² The authorities' cooperation has therefore been deepened thanks to, among other things, a more extensive exchange of both information and working methods. The Riksbank and Finansinspektionen agree, however, that cooperation can be further improved in order to streamline both oversight and supervision.

³⁸ *Financial services market report* 1995:1

³⁹ *Financial services market report* 1997:1

⁴⁰ Martin Andersson, Gabriela Guibourg and Björn Segendorf, *Riksbankens roll som övervakare i den finansiella infrastrukturen* [The role of Riksbanken Riksbanken Riksbanken monitor of the financial infrastructure], Penning- och valutapolitik 2001:3.

⁴¹ See www.fi.se and www.riksbank.se.

⁴² Cooperation takes place on evaluating OMX DM's derivatives clearing and evaluating securities settlement at VPC.

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