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■ Assessment of NASDAQ OMX Derivatives Markets as a central counterparty, 2009

This assessment has been conducted in accordance with the current agreement between the Riksbank and Finansinspektionen on cooperation regarding financial stability work. The two authorities have worked together in planning the nature of the assessment and in collecting and checking the information provided by NASDAQ OMX. The conclusions from the assessment are supported by both the Riksbank and Finansinspektionen. NASDAQ OMX plays a significant role in the stability of the financial system through its function as a central counterparty. Against that background, the Riksbank and Finansinspektionen have assessed NASDAQ OMX on the basis of the European Central Bank (ECB) and Committee of European Securities Regulators' (CESR) *Recommendations for Central Counterparties In The European Union May 2009*.

Assessment and recommendation

The assessment of the Riksbank and Finansinspektionen is that, as a central counterparty and clearing organisation, NASDAQ OMX Derivatives Markets observes Recommendation 14 Transparency broadly, and other principles fully, as described in the summary below.

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

Recommendation 15 relates to the regulation, supervision and monitoring of central counterparty clearing. In the assessment, the activities of the authority concerned are described in terms of the relevant recommendation. However, the authorities have deliberately refrained from themselves assessing the degree to which the recommendation has been observed.

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■ NASDAQ OMX as a central counterparty

NASDAQ OMX Group is an international group that offers services for trading in securities and technical systems for trading and processing transactions in securities in more than 50 countries.

NASDAQ OMX Stockholm AB (hereinafter referred to as NOMX STO) operates marketplaces for trading in, for example, equities, fixed income securities and derivative instruments in Sweden.

NASDAQ OMX Derivatives Markets (hereinafter referred to as NASDAQ OMX DM) is a secondary legal name for NOMX STO and is used for operations involving the trading and clearing of derivative instruments.¹

NOMX DM is a central counterparty in the clearing of standardised derivative instruments traded on the NOMX DM derivatives exchange. In its capacity of central counterparty, NOMX DM reduces market counterparty risks in derivatives trading and therefore plays an important role in terms of stability in the financial system.

In 2008, the NASDAQ OMX Group acquired Nord Pool Clearing ASA, the central counterparty in electricity derivatives and other contracts traded on the Nord Pool ASA power exchange. As of the end of December 2009, Nord Pool Clearing ASA was incorporated into NOMX STO and its operations since then have been conducted as a Norwegian branch of NOMX STO. NOMX STO also performs clearing services for spot electricity trading in the UK via the UK Power Exchange.

This assessment is restricted to NOMX DM's role as central counterparty for financial derivatives. NOMX STO's other activities are included to the extent they affect NOMX DM's clearing capital.

The assessment is conducted on the basis of publication from the European Central Bank (ECB) and the Committee of European Securities Regulators (CESR) entitled *Recommendations for Central Counterparties In The European Union May 2009*. These recommendations are based on the recommendations prepared by the Committee on Payment and Settlement Systems (CPSS) and the Technical Committee of the International Organization of Securities Commissions (IOSCO), which may be found in *Recommendations for Central Counterparties*.² The recommendations aim to provide a comprehensive assessment of a central counterparty's management of different types of risk.

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

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

Background

NOMX STO conducts stock exchange operations relating to, for instance, equities, debt securities and derivatives.³ NOMX DM organises and is responsible for the clearing and settlement of derivatives transactions. In derivatives transactions, NOMX DM operates as a central counterparty.⁴ This means that NOMX DM acts as a seller to all the buyers and as a buyer to all the sellers. Both the buying and the selling party thus have NOMX DM as their legal counterparty.

Legal status and supervision

In order to conduct trading and central counterparty clearing in derivatives, NOMX STO is authorised as an exchange and has a permit from Finansinspektionen to conduct clearing operations in accordance with the *Swedish Securities Market Act (2007:528)*. Finansinspektionen has approved and registered NOMX STO with the European Commission in accordance with the *Act (1999:1309) on Systems for the Settlement of Obligations on the Financial Market*. NOMX STO is subject to supervision by Finansinspektionen. As NOMX DM is a secondary legal name for NOMX STO, the same legal status and supervision applies to NOMX DM as to NOMX STO.

Ownership and governance

NOMX STO is part of the NASDAQ OMX Group and is a subsidiary of NASDAQ OMX Nordic Ltd. The Group's parent company is the listed US company NASDAQ OMX Group. The NASDAQ OMX Group includes the stock exchanges in Copenhagen, Stockholm, Helsinki, Reykjavik, Tallinn, Riga och Vilnius, as well as the central securities depositories in Estonia, Latvia and Iceland. The NASDAQ OMX Group also owns a share of the Lithuanian central securities depository.

Derivative operations are conducted organisationally in the business area Nordic Transaction Services, which runs the stock and derivatives exchanges in Stockholm, Helsinki, Copenhagen and Reykjavik. Trading and clearing are conducted via NOMX DM. The management and board of NOMX STO are responsible for the derivatives operations of NOMX DM.

History

The privately-owned company OM Stockholm AB (hereinafter referred to as OM) was founded in 1984. In the following year, OM started Nordic region's first derivatives exchange, an exchange for the trading and clearing of standardised options and derivatives. The company offered its shares on the market in 1987 and was thus the first exchange in the world to be listed on the stock market.

In early 1998, OM acquired Stockholms Fondbörs (the Stockholm Stock Exchange). From 1 July 1999, equity and derivatives operations were conducted in the same company, the then OM Stockholmsbörsen.

In the autumn of 2003, OM merged with the Finnish company HEX Plc, which owned the stock exchanges in Finland, Estonia and Latvia. After the merger, the company was renamed OM HEX AB and the Finnish derivatives trading operations were transferred to the Stockholm exchange. In the same year, OM HEX AB and the London Stock Exchange founded the derivatives exchange EDX

³ NOMX DM conducts trading in and central counterparty clearing of standardised derivatives. NOMX STO also organises trading in warrants, which are cleared in the Euroclear Sweden system. Transactions in equities and debt securities are cleared and settled in the Euroclear Sweden system for settlement of securities.

⁴ For a discussion of the advantages and disadvantages of a CCP, see *Finansiell Stabilitet* (Financial Stability Report) 2002:2, pp. 47-58.

■ London Exchange, which via LEC (Linked Exchange Clearing) offers its counterparties trading in Nordic equity derivatives with local clearing.

In August 2004, the exchange was renamed OMX. During 2004 a majority holding in the stock exchange in Lithuania was acquired, together with parts of the securities depository in Lithuania. Another step towards increased integration was taken in late 2004, when equities trading in Finland, Estonia and Latvia was migrated to the same technical platform as used by other stock exchanges in the Nordic region. The Lithuanian stock exchange was also migrated to this platform in 2005. The Copenhagen stock exchange was integrated into OMX on 1 January 2005.

Consolidation on the stock exchange side continued in 2006, with OMX acquiring the Icelandic stock exchange and purchasing 10 per cent of the shares in Oslo Børs (the Oslo stock exchange). On the derivatives side, consolidation took place with the start of trading and clearing in Finnish and Danish derivatives at OMX in the wake of the merger between the stock exchanges. In December 2006, OMX launched trading in and clearing of Russian derivatives.

Several changes took place in the OMX Group in 2007. Some of the companies in the Group were renamed to reflect OMX's Nordic strategy. For example, Stockholmsbörsen AB was renamed OMX Nordic Exchange Stockholm AB. The central counterparty for derivatives clearing took the secondary legal name OMX DM. The range of products in derivative operations was increased during the year when it became possible to trade and clear Icelandic and Baltic derivatives at OMX DM. At year-end 2007, the Armenian exchange and securities depository were acquired and in 2008 Nord Pool Clearing ASA was acquired. As a result of the acquisition of Nord Pool Clearing ASA, clearing of electricity derivatives and other contracts traded on the Nord Pool ASA power exchange will be conducted within the NASDAQ OMX Group.

In early autumn 2007, NASDAQ Stock Market Inc. and Borse Dubai presented a joint solution for the purchase of OMX. Under the proposal, Dubai would become a major owner of a merged NASDAQ OMX. The integration of NASDAQ and OMX began in 2008. The Nordic operations, for example, were extensively reorganised towards the end of the year as a result of the integration work. Also, OMX Nordic Exchange Stockholm AB was renamed NASDAQ OMX Stockholm AB (NOMX STO).

At year-end 2009, Nord Pool Clearing ASA also became part of NOMX STO. Clearing and settlement of electricity derivatives and emission rights will in future be conducted via a Norwegian branch of NOMX STO. During 2009, NOMX STO phased out its former links with the derivatives exchanges and clearing organizations in London and Oslo. A few remaining positions will be closed down in 2010, but it is not possible to enter into new agreements.

Operations

NOMX STO offers trading in, for example, equities, premium bonds, convertibles, warrants, bonds and exchange-traded funds. It also offers trading in and clearing of in Swedish, Finnish, Norwegian, Danish, Baltic and Russian derivatives, such as stock options, index options, interest derivatives and share and index futures, as well as certain OTC derivatives.^{5 6}

NOMX DM clears standardized derivative products, but also semi-standardized instruments and customized derivatives that are traded on the OTC markets. The types of instrument cleared are set out in the current quotation list.

NOMX DM's obligations as a central counterparty

NOMX 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 NASDAQ OMX's trading system but

⁵ Russian derivatives exist as products but were not taken up by the market in 2009.

⁶ OTC (over-the-counter) products are those that are bought and sold outside a regulated marketplace.

■ reported to NOMX DM for clearing.⁷ In the case of 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 registered in the clearing system, NOMX DM takes over as the central counterparty. When the transaction is registered in this way, NOMX DM replaces the original contracts with two new contracts. This makes NOMX DM the legal counterparty to both sides of the transaction – buyer to each seller and seller to each buyer. In the case of certain derivatives traded outside the stock exchange and the trading system and reported to NOMX DM, NOMX DM offers central counterparty services. This applies both to instruments that are only cleared and to instruments that are approved on a case-by-case basis.

As counterparty, NOMX DM guarantees completion of each transaction, regardless of the original counterparty's ability to pay and deliver. NOMX DM does not, however, undertake to complete the transaction on the appointed day if a counterparty cannot fulfil its obligations or a participant fails to deliver securities promptly. If a counterparty cannot fulfil its obligations, it is deemed to be in breach of NOMX DM's rules and regulations.

If a counterparty fails to fulfil its obligations, NOMX DM is entitled to close down its positions and liquidate its collateral. NOMX DM completes the transaction when this process has been completed at the latest. If a counterparty cannot fulfil its obligations, NOMX DM can, with the consent of its counterparty, substitute a cash amount for a security.

Delays in deliveries of securities may arise without the original counterparty being deemed to be in breach of NOMX DM's rules and regulations. In such cases, delayed delivery may be allowed, subject to the counterparty's consent. The counterparty will then also be entitled to a delayed delivery charge, though this is currently set at zero. This type of delay is relatively rare and in most cases lasts one or two days at most. To cover any risk that may arise, NOMX DM obtains delivery collateral. After five days' delay, NOMX DM may issue a buy-in notice, stating NOMX DM's intention of buying the security, delivering it to the acquirer and invoicing the cost to whoever had failed to deliver. In most cases, the result is that the party responsible for the delay delivers the security before NOMX DM carries out the intention stated in the buy-in notice. NOMX DM can also borrow the security and deliver it, in the place of the party unable to deliver, in order to smooth the workings of the system until such time as the party who has not delivered is in a position to deliver. Costs and price losses/gains arising from a delayed delivery are settled between NOMX DM and the party who has been unable to deliver on time.

Participants

There are three categories of participant in NOMX DM's derivative operations:

- Exchange members
- Clearing members
- End-customers

Exchange and clearing members, comprising chiefly banks and broking firms, enter into exchange member agreements or clearing member agreements with NOMX STO. Exchange members can trade directly with NOMX STO both under their own name and on behalf of their customers. Exchange members are usually clearing members too, but it is possible to act solely as an exchange member or clearing member.

At NOMX DM, what is known as end-customer clearing is practised, which involves the customers, both financial institutions and private individuals, normally having their own accounts and a direct

⁷ Does not apply to all types of derivative, for example, warrants are not included.

contractual relationship with the central counterparty.⁸ They cannot, on the other hand, trade directly with NOMX DM and neither can they handle clearing of the transactions. Trading and clearing are handled solely by exchange and clearing members. The services that 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).

As an alternative to end-customer clearing, NOMX DM offers "member clearing". This means that 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 NOMX DM and for customers on whose behalf transactions are registered in an omnibus 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. As an exchange member may be responsible for a substantial proportion of trading, general clearing members are subject to special requirements. They must, for example, have financial resources of at least SEK 500 million.

Unlike end-customer clearing, member clearing means that NOMX DM is only permitted to have a contractual relationship with the clearing member, and not the customer. This means, in turn, that NOMX DM does not assume any customer-specific risk in member clearing as it does in end-customer clearing.

Account structure

The account structure at NOMX DM reflects both end-customer clearing and member clearing. End-customer clearing is the method of clearing that NOMX DM has used in the past, while member clearing was introduced in 2007.

NOMX DM provides member accounts.¹⁰ In the case of member accounts, the members are account holders on their own behalf, which involves members monitoring their transactions on the day of trading and being informed about their rights and obligations in terms of collateral requirements, payments and deliveries. Customer accounts are intended for registering transactions on behalf of customers. Customer accounts are divided into individual customer accounts, omnibus accounts and segregated customer accounts.

In end-customer clearing, individual customer accounts are offered. These accounts may be either integrated trading and clearing accounts or separate trading and clearing accounts. The individual customer account is a customer account that is opened for a customer who has entered into a contractual agreement with NOMX DM. The fact that the customer has signed a customer agreement with NOMX DM means that the customer and NOMX DM have a direct contractual relationship with each other.

In member clearing, two different accounts are offered. The first is an omnibus account, which is an integrated trading and clearing account opened for a clearing member. In an omnibus account, transactions are cleared on behalf of one or several customers, but not for the clearing member who holds the account. Both direct clearing members and general clearing members can have omnibus accounts. The second type of customer account in the member clearing system is the segregated account. The segregated account is also a trading and clearing account that is operated by a clearing member, but only on behalf of a customer or on behalf of an exchange member. Both direct clearing members and general clearing members can open segregated accounts, but only general clearing members can open a segregated account on behalf of an exchange member. The segregated account is also an integrated trading and clearing account but only for the transactions conducted by general

⁸ The CCPs in most other countries only have a direct relationship only with their clearing members. At NOMX DM, the end-customers also have their own accounts with Euroclear Sweden or equivalent organisations. This is, too, different in most other countries, where only brokers have accounts with the central depository.

⁹ Read more about omnibus accounts under the heading "Account structure".

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

■ clearing members on behalf of exchange members or customers. An advantage of the segregated account is that if the need arises to transfer a customer's contract from one clearing member to another the process is made much easier because all the information is more readily available.

For functional purposes, member accounts and customer accounts are divided into trading accounts and clearing accounts. These accounts are opened by NOMX DM at the request of the trading account holder or clearing account holder on behalf of the account holder or customer. Transactions involving instruments approved for registration by NOMX DM are recorded in a trading account. A clearing account lists the contracts that are registered in one or more trading accounts linked to the clearing account. A trading account can be linked to a clearing account or to an integrated trading and clearing account.

End-customers are offered a choice of 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 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 in the clearing account and hence the positions on the various trading accounts can be netted in the clearing account. A clearing account lists the contracts that are registered in one or more trading accounts linked to the clearing account. In a clearing account, rights and obligations for certain account holders are also established.

Provision of collateral

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

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

Customers holding separate trading and clearing accounts provide collateral directly to NOMX DM. The clearing member who manages a trading account assumes the risks for the end-customer's account from the moment the transaction has been booked in 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 NOMX DM.

In the case of end-customer clearing, the value of the collateral that the clearing member must provide to NOMX DM cannot be calculated on the basis of the net total of the various end-customers' positions. Netting is done at end-customer level, not at member level. Member clearing means that the customer assumes responsibility for his collateral in relation to the clearing member, and the customer thus has no contractual relationship with the central counterparty. The clearing member can then add the customers' collateral together and takes responsibility for pledging the net collateral to the CCP. 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 to a system that allows netting at member level.

¹¹ Integrated trading and clearing accounts can only be managed by clearing members.

■ Technical platform

NOMX DM's derivative clearing is conducted in SECUR™, a system developed by the NASDAQ OMX Group. Transactions involving derivatives are transferred directly from the trading system to the clearing system. Customers are able to monitor their transactions and calculate their transaction costs and collateral requirements using the software in the SECUR™ system.

NOMX STO has entered into an agreement with Global IT Services, part of the NASDAQ OMX Group, on the outsourcing of system operations and development services. Under this agreement, NOMX DM is able to expand the capacity of the system. The NASDAQ OMX Group uses a network, the Stockholm Financial Network (SFN), via which the participants can communicate with NOMX STO.

Clearing

NOMX DM offers both end-customer clearing and member clearing. In 2008, it was primarily end-customer clearing that was used; it was not until December 2008 that the first general clearing members were approved.

End-customer clearing means that end-customers acquire a credit risk in relation to NOMX DM and not in relation to the clearing member. To the clearing member, who is an agent, the settlement risk in relation to NASDAQ OMX DM is minimised. Formally, the clearing member is only an agent and thus not a counterparty in the end-customer's transactions in the legal sense.¹² In its role as an agent, the clearing member is, however, accountable to NOMX DM for the end-customer's obligations. The use of end-customer clearing by NOMX DM offers better protection to end-customers in the event that the clearing member goes bankrupt.

When NOMX DM clears at end-customer level, the clearing member is responsible for ensuring that the end-customer has signed the necessary contracts and supplied adequate collateral. This means that NOMX DM does not handle or hold collateral itself. NOMX DM and the Swedish Securities Dealers Association jointly own the company Clearing Control AB (CCAB), which has the task of ensuring that the customer contracts are correct and of carrying out annual random tests to check that the collateral provided is acceptable and correct. CCAB also has the right, if and when NOMX DM so wishes, to carry out inspections at various participants to verify the collateral stock.

As soon as a derivatives transaction is registered in the clearing system, counterparty risks arise at NOMX DM. As NOMX DM does not require collateral until 11.00 a.m. on the day after the trading day, the transaction entails an overnight credit risk. NOMX DM's derivatives rules and regulations stipulate that the clearing member must bear the risks relating to exposures in their end-customers' accounts before the collateral reaches NOMX DM. However, NOMX DM bears the risks relating to exposures in the clearing members' own accounts. If the counterparty risk changes by more than SEK 200 million for a member, NOMX DM will call for collateral during the day, thereby avoiding the overnight risk. The same applies if a member is expected to record a collateral deficit of more than SEK 200 million as a result of liquidation during a day.¹³

Statistics

In 2009, NOMX DM traded on average 406,890 derivative contracts per day, of which 323,187 had equities as the underlying asset and 83,704 had interest-bearing securities as the underlying asset. The average collateral requirement in SEK per day in 2009 amounted to approximately SEK 14.2 billion.

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

¹³ This may happen if a member has a profit position in a portfolio. When a major profit position is liquidated, a collateral deficit may arise in the portfolio by virtue of the fact that the profit position is no longer included in the calculation of the counterparty risk in the portfolio.

■ Risk management

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

- Financial and operational requirements for membership and monitoring to ensure that members' continuously comply with the requirements (see Rec. 2)
- Monitoring and management of NOMX DM's exposures to each participant (see Rec. 3)
- Calculation of the collateral required to cover the exposures, and the administration of collateral (see Rec. 4)
- Routines to minimise disruptions and to close positions in the event of a participant failing to meet his obligations (Rec. 1 and Rec. 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 exchanges, followed by continuous monitoring of existing links (Rec. 11)

In addition to the points above, the Risk Management Department, which conducts NOMX DM's risk management, is also tasked with developing NOMX DM's policy and routines relating to risk management and with providing NOMX DM's managers with information about risk management. Organisationally, the Risk Management Department is separated from operating activities at NOMX DM and forms part of the NASDAQ OMX Group's joint Risk Management Department.

NOMX DM checks that those applying for exchange and clearing membership meet the membership 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 provide collateral to their respective collateral institutions in the form of ready cash, guarantees or securities that are approved by NOMX DM. It is incumbent on the collateral institution to apply the haircut stipulated by NOMX DM and set out in the "Collateral List" in NOMX DM's derivatives rules and regulations. These routines keep NOMX DM informed about the day-to-day collateral requirements, but provide no day-to-day insight into the individual collateral furnished by these members and customers.

The collateral requirement for each individual counterparty is calculated at least once an hour. If the collateral requirements prove to be high in relation to stipulated limits, the Risk Management Department will take action in accordance with established routines to reduce NOMX DM's exposure to the counterparty.

The financial turmoil that has affected the world markets in recent years has, not least, shown up a great need for supervision and readiness to act. There has been an even sharper focus on risk management and NOMX DM has made several and more frequent adjustments to its risk management in certain periods; for example, the new rules introduced in 2009 on obtaining collateral during the day for counterparty risks exceeding SEK 200 million.

NOMX DM calculates the capital requirement needed to cover NOMX DM's costs for closing (liquidating) the positions in a portfolio in the event that a counterparty is unable to fulfil its obligations. In calculating these costs, account is taken, among other things, of the lead time, that is, the time it takes to close the positions (two days for NOMX DM), the underlying volatility of the instruments, any correlation between different instruments and spread costs. The collateral requirement is calculated using a confidence interval of 99.2 per cent, which roughly corresponds to the fourth largest price movement over a two-year period.

- If a counterparty fails to fulfil its obligations and it emerges that the collateral furnished by this counterparty was inadequate, NOMX DM must have the financial strength to bear any loss itself. Through the merger of Nord Pool Clearing and NOMX STO, the two institutions' assets that are intended to provide protection against such losses - also referred to as clearing capital - have also been brought together within NOMX STO. This capital may be used to cover any losses by NOMX DM and by Nord Pool Clearing.

At year-end 2009, NOMX STO had SEK 1,970 million at its disposal to cover any counterparty risks and a further SEK 300 million to cover operating risks, representing a total of SEK 2,270 million. This includes equity (including non-distributable reserves) of SEK 251 million and retained profit of SEK 469 million. These assets are invested in government securities and may only be used as clearing capital. The remaining amount up to SEK 2,270 million (SEK 1,550 million) is made up of an insurance policy with OMX Capital Insurance AG, which cannot be used for any purpose other than to cover any counterparty risks and operating risks. In addition to the capital and the insurance policies that can only be used as clearing capital, NOMX STO had at year-end 2009 a further approximately SEK 3 billion in equity consisting of retained profit and income for the year.

Method and summary

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

The assessment focuses on NOMX DM in its capacity of central counterparty in the derivatives clearing system. It follows the recommendations and methodology contained in the publication from the European Central Bank (ECB) and the Committee of European Securities Regulators (CESR) entitled *Recommendations for Central Counterparties In The European Union May 2009*. These recommendations are based on the recommendations prepared by 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 *Recommendations for Central Counterparties*.¹⁴ The recommendations aim to provide a comprehensive assessment of a central counterparty's management of different types of risk.

The assessment is based on 15 recommendations, which are applied to NOMX DM. An assessment is then made of the degree to which NOMX DM observes each of the recommendations. This is indicated as one of the following: observed, broadly observed, partly observed or non-observed.

Recommendation 15 relates to the regulation, supervision and monitoring of central counterparty clearing. In the assessment, the activities of the authority concerned are described in terms of the relevant recommendation. However, the authorities have deliberately refrained from themselves assessing the degree to which the recommendation has been observed.

¹⁴ CPSS-IOSCO *Recommendations for Central Counterparties*, BIS November 2004.

The assessment

Recommendation 1: Legal risk

CCPs, linked or interoperable CCPs should have a well-founded, transparent and enforceable legal framework for each aspect of their activities in all relevant jurisdictions.

Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 1 is observed.

Considerations

In the view of the Riksbank and Finansinspektionen, Swedish legislation and NOMX DM's derivatives rules and regulations provide adequate support for NOMX DM's role as a central counterparty in clearing operations.

Statement

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

Swedish legislation

The *Swedish Securities Market Act (2007:528)* applies to all companies that conduct securities business, exchange operations or clearing operations. The act came into force in 2007, thus implementing the EU Directive on Markets in Financial Instruments (MiFID) in Swedish law.¹⁵ Implementation of MiFID establishes a common framework of regulations for the European capital market in the member states, including the EEA.

Finansinspektionen has authorised NOMX DM as a clearing organisation in accordance with the *Swedish Securities Market Act (2007:528)*. The act specifies that NOMX 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, NOMX DM shall ensure that sufficient collateral is pledged for the commitments made and that this collateral is maintained for the duration of the commitments concerned.

Finansinspektionen has approved and registered NOMX DM's settlement system with the European Commission in accordance with the *Act on Systems for the Settlement of Obligations on the Financial Market (1999:1309)*. NOMX DM falls under the supervision of Finansinspektionen and is monitored by the Riksbank, owing to the potential system risks represented by central counterparty services on the Swedish financial market.

Swedish law provides support for the settlement of obligations that is vital to NOMX DM's derivatives clearing. The *Swedish Financial Instruments Trading Act (1991:980)* stipulates that the settlement of obligations between two or more participants in a notified settlement system applies to bankrupts and their creditors if settlement has been made in accordance with the rules of the system. This provision also applies to the settlements that take place during the clearing process in NOMX DM's system.

¹⁵ MiFID aims to increase competition in the European securities markets, improve supervision and strengthen consumer protection.

Moreover, provisions exist in Swedish law concerning the pledging of collateral and liquidation of securities in a bankruptcy. The *Swedish Rights of Priority Act (1970:979)* stipulates that a pledgee, in this case NOMX DM, has a “specific right of priority” to pledged assets in cases of distraint or bankruptcy. This entitlement means that where payment of a pledge is involved, NOMX DM does not necessarily rank behind any other creditor. The *Swedish Bankruptcy Act (1987:672)* enables NOMX DM to sell without delay any financial instruments it holds as collateral, as long as this is done in accordance with reasonable commercial principles.

Final settlement at NOMX DM is effected by means of delivering cash or securities. For the most part, the final settlement of cash is effected through RIX, the Riksbank's payment system.¹⁶ RIX has been examined in accordance with CPSS Core Principles for Systematically Important Payment Systems and are deemed to comply with the principle of a well-founded legal basis.¹⁷

The final settlement of securities is in most cases conducted through Euroclear Sweden. The bulk of all securities are registered in Euroclear Sweden's system which enables gross settlement and is based on the principle of delivery- versus-payment (DvP) in central bank money.¹⁸ The legal basis for Euroclear Sweden has been assessed in accordance with the European Central Bank (ECB) and the Committee of European Securities Regulators' (CESR) *Recommendations for Securities Settlement Systems In The European Union May 2009*.¹⁹

*NOMX DM's derivatives rules and regulations*²⁰

NOMX DM has adopted a set of what are known as derivatives rules and regulations that regulate exchange 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 part of the content of the contract between NOMX DM and the participants when a member agreement or customer agreement is entered into. Since NOMX DM provides end-customer clearing, it has a direct legal relationship, via the agreements, with the end-customers. The agreements drawn up for clearing members and end-customers are included as appendices to the derivatives rules and regulations.

The derivatives rules and regulations specify NOMX DM's rights and obligations by describing how and when registration, set-off, futures netting and settlement take place. They also specify when a transfer order should be regarded as irrevocable. They also describe the actions open to NOMX DM in the event of any delay in the delivery of securities (see also Recommendation 10).

Approved collateral and the appropriate haircuts are also defined in the rules and regulations. There is also a description of the procedures for the provision of collateral by customers and clearing members, as well as for 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 NOMX DM.

The rules and regulations make it clear that their interpretation and application are subject to Swedish law. Moreover, it is specified that if a customer is a non-resident of Sweden, Denmark, Finland or Iceland, the clearing member is responsible for ensuring that the derivatives rules and regulations and collateral arrangements issuing from the derivatives rules and regulations are legally valid in the

¹⁶ A small proportion of NOMX DM's cash settlement is conducted in the Danish, Finnish and Norwegian equivalents of RIX. These have been examined on the basis of CPSS Core Principles for Systematically Important Payment Systems and are deemed to comply with the principle of a well-founded legal basis. See www.nationalbanken.dk for Denmark and www.imf.org for the IMF's assessment of the payment systems in Finland and Norway.

¹⁷ See www.riksbank.se.

¹⁸ A small proportion of NOMX DM's delivery of securities is effected in the Danish, Finnish and Norwegian securities systems, which are all based on the delivery-versus-payment principle (DvP) in settlement.

¹⁹ See www.riksbank.se.

²⁰ See NOMX DM's derivatives rules and regulations at: <http://nasdaqomx.com/listingcenter/nordicmarket/rulesandregulations/stockholm/>

■ customer's country of domicile 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

NOMX DM has foreign participants and therefore needs to be sure that its own derivatives rules and regulations are legally binding on these participants and that NOMX DM is supported in its actions in the event of bankruptcy on the part of foreign participants. 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.

NOMX DM accepts foreign securities as collateral. Lien on dematerialised securities follows the laws in the country where the security is registered. NOMX DM accepts securities from Norway, Denmark, Finland and Iceland as collateral. The Settlement Finality Directive and the Directive 2002/47/EC on Financial Collateral Arrangements (The Collateral Directive) has been implemented in all these countries. The Finality and Collateral directives regulate, among other things, NASDAQ OMX DM's right to pledged collateral. NOMX DM settles transactions in these four countries. Implementation of the Settlement Finality Directive provides support so that the risk of revocation of payment or security transfers is eliminated once they have been approved in accordance with the settlement system's rules.

A more detailed examination of NOMX DM's trading and clearing cooperation with other exchanges and clearing organisations, together with the legal basis for this, can be found in Recommendation 11.

The Norwegian Ministry of Finance has granted NOMX STO permission to conduct central counterparty activities in Norway.²¹

²¹ The Ministry's decision of 21 October 2008 states: "On the basis of *Norwegian Law of 29 June 2007 no. 29 on Securities Trading*, Article 13-1, paragraph 6, the Ministry of Finance grants OMX Nordic Exchange Stockholm AB permission to conduct settlement operations in Norway".

■ 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. Rules and requirements that restrict access should be aimed at controlling risk.

Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 2 is observed.

Considerations

NOMX DM continually monitors that its members comply with the requirements set for membership. The requirements, which are clearly stipulated and publicly available, are defined in NOMX DM's derivatives rule and regulations and ensure, in the view of the Riksbank and Finansinspektionen, that the members have sufficient financial strength and operational resources. The rules and regulations are objective and are applied uniformly.

Statement

The requirements for membership of NOMX DM's derivatives clearing system are defined in NOMX DM's derivatives rules and regulations. These set out the requirements made in terms of organisation, risk management and technical systems. 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, or a company in the same group, 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 legal entities with permission to operate securities business in accordance with the law of the land where they are domiciled.

NOMX DM evaluates its members continuously to ensure that membership requirements are being met on an ongoing basis. In accordance with NOMX DM's derivatives rules and regulations, each member must provide NOMX DM with information regarding its financial strength and creditworthiness. NOMX DM also makes requirements of brokers and back office personnel. The latter must have undergone a course provided by NOMX DM and must have passed an examination before being allowed to take part in clearing operations. In addition, they must have a general knowledge of NOMX DM's derivatives products. Back office personnel who meet these requirements are registered for participation in clearing.

According to the *Swedish Securities Market Act (2007:528)*, NOMX DM must apply the principles of free access and neutrality for its participants. NOMX DM's derivatives rules and regulations set out the measures that may be taken when participants are in breach of rules and regulations or no longer meet the requirements of membership.

■ 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 requirement and other risk control mechanisms, a CCP should limit its exposures to potential losses from defaults by its participants 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.

Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 3 is observed.

Considerations

NOMX DM's exposures are continually calculated every hour with up-to-the-minute pricing information; there is also scope for measuring them more often, if needed. NOMX DM uses these calculations to manage its exposures to participants during the day. The Riksbank and Finansinspektionen take the view that NOMX 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. NOMX's assumptions are described in more detail in Recommendation 4. These risks have been further limited by the introduction in 2009 of standardised limit amounts for intraday margin calls.

Statement

NOMX DM has routines in place for calculating and management of its counterparty exposures. NOMX DM's exposure to each counterparty is automatically calculated once every hour and is based on real-time pricing information for equity products and closing price information for fixed-income 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 made of NOMX DM's final exposure and this forms the basis for the collateral balance at the start of trading on the following day.

These calculations also constitute the basis for NOMX DM's management of counterparty risks. A cornerstone of risk management is the pledging of collateral, which is described in more detail in Recommendation 4. NOMX DM also monitors members' financial positions and calculates appropriate credit limits. Limits to exposures are set for every member and end-customer who pledges collateral direct to NOMX 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 alternatively NOMX DM can request additional collateral intraday. In 2009, NOMX DM introduced standardised limits for when intraday margin calls are to be made. The limit is SEK 200 million, and extra collateral is called for either in the event of a change in a counterparty exposure as a result of market fluctuations during the day, or of any shortfall in collateral that is anticipated may arise at settlement during the day.

Recommendation 4: Margin requirements

A CCP should to the greatest extent feasible impose margin requirements to limit its credit exposures to participants. These requirements should be sufficient to cover potential exposures that the CCP estimates to occur until the liquidation of relevant positions. The models and parameters used in setting margin requirements should be risk-based and reviewed regularly.

Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 4 is observed.

Considerations

In the view of Riksbank and Finansinspektionen, NOMX DM has adequate collateral to deal with a counterparty's bankruptcy, provided that no extreme movements in prices occur. NOMX DM values the collateral stock daily and is entitled to call for additional collateral in the event of a negative collateral balance. "Back-testing" of the valuation model is carried out regularly every quarter.

On the basis of its customer portfolios, NOMX DM calculates the marginal collateral requirement several times during the day and makes an intraday margin call if the risk changes by more than the limit value. However, the calculation does not take into account which collateral has been pledged or any change in value of the collateral. This may mean that in certain cases NOMX DM does not make an intraday margin call when it should and vice versa. NOMX DM maintains effective management of marginal collateral and improved it further in 2009 by standardising limits for intraday margin calls. In the view of Finansinspektionen and the Riksbank, it would be beneficial in the future to take a step further and collect information about the collateral so that any price increases in the collateral may be taken into account in the calculation of counterparty risks during the day. Knowledge of the collateral also makes it possible to avoid excessively high exposures to certain assets (see discussion under "Considerations", Recommendation 7).

In the view of the Riksbank and Finansinspektionen, the haircuts applied to the collateral are well aligned with the risk of change in value. The haircuts are reviewed twice a year. Furthermore, the Riksbank and Finansinspektionen are of the view that it is beneficial to operate routines that initiate a review on an *ad hoc* basis in the case of major individual and structural changes in the market.

Statement

The collateral pledged to NOMX DM is intended to cover losses as a consequence of NOMX DM's counterparties being unable to honour their commitments in the event of adverse, but not extreme, price movements. The need for collateral is calculated on the basis of the exposures to each individual counterparty's portfolio. The value of the collateral must cover NOMX DM's costs for liquidating the counterparty's portfolio. When calculating the collateral requirement, the value of the portfolio is the value it reaches when valued during adverse price movements. These price fluctuations are calculated using 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. This is roughly equivalent to the fourth largest price movement during the two-year period. Price movements are calculated over a time interval of two days for all products other than cash bonds, for which price movements are calculated over three days. The time interval reflects the number of days NOMX DM expects it to take to close down all positions for a counterparty.²²

The need for collateral is calculated at least once a day and NOMX DM's Risk Management Department is responsible for performing the calculations. The possibility of calculating the collateral

²² If a counterparty cannot meet its commitments, NOM DM estimates that it will take a day to confirm and announce this and a further day to close the positions.

■ requirement more frequently than once a day is used when the market climate is very volatile. The parameters used to calculate the collateral requirement are adjusted as necessary and reported daily to the risk committee at NOMX STO. During the turmoil in autumn 2008, the parameters were adjusted frequently in response to the major market movements. If the collateral stock is insufficient, additional collateral has to be pledged to cover the negative collateral margin.

NOMX DM's model for calculating the collateral requirement, RIVA margining, is compared with other existing models and examined by both internal and external auditors. When any significant changes are made to the model, both internal and external approval are required. Approval must be given and pretesting carried out before any changes in the methodology of the model are applied. NOMX DM does have the possibility, however, of revising the risk parameters frequently and at short notice in connection with extreme price movements.

NOMX DM conducts back-testing of the model. The purpose of back-testing is to ensure, using historical data, that the model yields fair and predictable results.

NOMX DM accepts the following assets as collateral:²³

- cash in SEK, GBP, DKK, EUR, NOK, CHF, ISK (only for collateral requirements in ISK) and USD
- certain warranties/guarantees (subject to separate approval)
- bank certificates issued by Swedish, Danish and Finnish banks
- bonds and certificates issued by Swedish, Danish, Finnish banks and building societies
- treasury bills and government bonds (for selected countries and with credit rating restrictions)
- shares (a selection admitted for trading on the NASDAQ OMX Nordic list²⁴ and on Oslo Børs²⁵)

Valuations of the above instruments are subject to limits and deductions. In the case of bank certificates, bonds and government bonds, NOMX DM has criteria for the lowest approved rating (Moody's and S&P). NOMX DM does not approve securities issued by the counterparty itself, nor securities issued by any subsidiary of the counterparty, or any other company in the same group.

The collateral is managed by whichever collateral institution has been engaged by the customer. NOMX DM itself therefore has no direct access to information about the collateral actually included in the collateral stock. This means that NOMX DM itself cannot normally investigate the connections that exist between the counterparties and their collateral, nor the adequacy of the collateral in various market scenarios. NOMX DM's Risk Management Department may therefore, when it is found necessary, ask for information about individual counterparties and the collateral that they hold. However, NOMX DM has no means of continually checking the collateral included in the collateral stock.

The collateral is charged with a haircut that also leaves a margin for the uncertainty that arises when NOMX DM does not itself have control over which collateral is pledged. NOMX DM monitors and estimates the value changes in its customer portfolios during the day, and the new portfolio value is compared to the value of the collateral at 11.00 a.m. on the day it is pledged. The increased portion of the haircut is not related to the customer portfolio, it is related to the specific risk of the value of the marginal collateral collapsing between 11.00 and 11.00.

Enquiries about the composition of the collateral stock are made once a year by NOMX DM Risk Management. The aim of this annual enquiry is to make sure that the information is easily available if

²³ For a complete list of collateral, see NOMX DM's derivatives rules and regulations, Appendix 12.

²⁴ See NOMX DM's derivatives rules and regulations, Appendix 12a.

²⁵ Refers to shares listed on Oslo Børs and included on *Hovedlisten* (the Master List) and on which derivatives are also listed on Oslo Børs.

- needed. The enquiries made have indicated that the information is readily available. CCAB verifies the collateral stock by making annual spot checks on members' premises. To date no situation has ever arisen in which the collateral stock deviated from NOMX DM's derivatives rules and regulations, or has in any other way been inadequate.

The list of approved collateral, known as the Collateral List, found in NOMX DM's derivatives rules and regulations, shows the haircuts that should be made when valuing pledged collateral. The haircuts are largely in line with the current recommendations of the Swedish Bankers' Association, but are in some respects larger. The haircuts are revalued every quarter, and are influenced by volatility changes and falls in prices.

Recommendation 5: Financial resources

A CCP should maintain sufficient available financial resources to cover potential losses that exceed the losses to be covered by margin requirements. For this purpose, the CCP should develop plausible scenarios and conduct stress tests accordingly. At a minimum CCP should be able to withstand a default by the participant to which it has the largest exposure in extreme but plausible market conditions.

Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 5 is observed.

Considerations

In 2009, NOMX DM revised its calculation of the clearing capital that is required, over and above the marginal collateral, for covering of losses in extreme eventualities. The revision was made in connection with Nord Pool Clearing, central counterparty for electricity derivatives, becoming a Norwegian branch of NOMX STO. The two central counterparties, NOMX DM and Nord Pool Clearing, now share the clearing capital, meaning that losses by either CCP are covered by the joint capital.

Before the change, NOMX STO's clearing capital covered not only any bankruptcy of the two major and five minor counterparties but also operating costs for six months. In total, the clearing capital amounted to SEK 2.1 billion. Nord Pool Clearing ASA in turn used a model in which the clearing capital consisted of a fixed sum of NOK 500 million, satisfying a requirement from Norway's Finansinspektionen, plus capital of around SEK 1 billion, which it decided on the basis of a self-assessment to maintain.

As a result of the revision, the underlying calculation model is kept unchanged and the buffer for operating risks is increased through the acquisition of Nord Pool Clearing. Counterparty risks will be calculated separately for the two central counterparties. NOMX STO will maintain capital to cover the two biggest exposures for the two central counterparties, plus a capital amount to cover the portfolio risks for the two central counterparties.²⁶

Selection of the two biggest exposures disregards any counterparty exposure to a power generator, if the market price is higher than the price contracted by the power generator in its put futures, despite the fact that such positions are always negative financially. The reason is that generators with supply capacity can deliver power and thus do not risk acquiring any financial commitments as a result of the contract. To ensure the availability of supply capacity, Nord Pool Clearing has introduced procedures to ensure that power generators have generating capacity corresponding to the power that the generators have sold via derivatives including a haircut to allow, for example, for generating shortfalls.

Finansinspektionen has given its consent to the model, in consultation with the Riksbank.

Finansinspektionen's examination of the model is based on the *Swedish Securities Market Act (2008:528)*. In the view of the Riksbank and Finansinspektionen, NOMX DM uses an appropriate automatic stress test (RCaR – a risk capital model) to determine the size of the financial resources designed to cover any counterparty losses. Automatic stress tests are performed daily.

²⁶ The capital held to cover the portfolio risk is the aggregate counterparty risk relative to the other party, multiplied by the probability of bankruptcy. The two biggest counterparties are not part of the portfolio calculation in view of the fact that capital is held separately on their behalf.

■ Statement

If the counterparty's collateral were inadequate in connection with a counterparty default in accordance with the derivatives rules and regulations, NOMX DM would have to have sufficient financial strength to bear any loss itself.

Prior to the change in its clearing capital, NOMX DM's clearing capital and operating risk capital totalled SEK 1,925 million, made up of equity totalling SEK 375 million and insurance for SEK 1,550 million issued by OMX Capital Insurance AG. Nord Pool Clearing ASA had risk capital of approximately EUR 150 million, comprising equity of EUR 50 million in equity and a financial guarantee of EUR 100 million. In all, the clearing capital and operating risk capital thus amounted to approximately SEK 3,600 million before the change was implemented in late 2009.

After the change, NOMX STO had SEK 1,970 million at its disposal to cover any counterparty risks and a further SEK 300 million to cover operating risks, representing a total of SEK 2,270 million. This includes equity (including non-distributable reserves) of SEK 251 million and retained profit of SEK 469 million. These assets are invested in government securities and may only be used as clearing capital. The remaining amount up to SEK 2,270 million (SEK 1,550 million) is made up of an insurance policy with OMX Capital Insurance AG, which cannot be used for any purpose other than to cover any counterparty risks and operating risks.

In conjunction with the merger of NOMX STO and Nord Pool Clearing ASA, Finansinspektionen and the Riksbank - in an advisory capacity - conducted an analysis of the capital requirement in view of the merger between the two central counterparties and other actions taken, as well as the requirements imposed by international standards. Finansinspektionen then gave its consent to the changes, which were implemented at the end of the year.

The clearing capital is made up of two components, a provision corresponding to the two biggest exposures as determined by NOMX DM's and Nord Pool Clearing's RCaR calculations, and a provision for portfolio risk. In addition, provision is made to cover operating risks.

RCaR (RIVA Capital-at-Risk) is a risk capital model developed by NOMX STO. The model is used to carry out stress tests that estimate the need for capital to cover any counterparty losses if the pledged capital falls short. In the case of individual derivatives, extreme price movements are defined as 1.5 times greater than the fourth-largest price movement during the past two years (the "stress factor" is 150 percent). In the case of OMX index products, the stress factor is 2, but cannot be less than the highest value of the highest historically measured negative 2-day price movement or the positive 1-day price movement, which is at present the 2-day stock market fall in October 1987, when the market fell by just over 12 percent. The stress factor for other index products is 2.

NOMX 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, NOMX DM can either reduce the risk exposure or increase the clearing capital. Both alternatives are workable, operationally speaking, in several different ways.

As well as its clearing capital, NOMX DM has access to two credit lines in Swedish kronor for SEK 700 and SEK 500 million, respectively, as well as smaller amounts in Norwegian, Danish and Icelandic kroner, and in euro for immediate disbursement. The parent company NASDAQ OMX Group Inc. also provides credit facilities enabling liquidity to be available quickly. See Recommendation 7 for a description of NOMX DM's liquid assets. In addition to the equity and the insurance policies that can only be used as clearing capital, NOMX STO had at year-end 2009 a further approximately SEK 3 billion in equity consisting of retained profit and income for the year.

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 and tested regularly.

Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 6 is observed.

Considerations

In the view of the Riksbank and Finansinspektionen, NOMX DM's rules and routines for handling a counterparty's bankruptcy are clear, explicit and publicly available. They enable NOMX DM to handle a defaulting counterparty. NOMX DM's derivatives rules and regulations lay down what is meant by defaulting and the measures that NOMX DM is entitled to take, such as claiming pledged collateral and closing down positions quickly.

NOMX DM has fulfilled Recommendation 1 on legal risk, which, among other things, requires support in Swedish legislation for liquidating collateral pledged to NOMX DM.

Statement

NOMX DM's derivatives rules and regulations specify what is meant by exchange member, clearing member and end-customer default, respectively. They also describe the measures NOMX DM can take in the event of default. For example, NOMX 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. NOMX DM can also transfer end-customers' accounts and pledged collateral from one clearing member to another. *OMX Derivatives Market as a Counterparty*, which is available on the NASDAQ OMX website, has a chapter describing the rules and the process on which NOMX DM bases its actions in the event of default and a description of the 8 cases of default vis-à-vis NOMX DM that have occurred since December 1989.

NOMX DM has a formal committee, a "default committee", which can be convened at short notice. It has the authority to make a number of decisions relating to defaulting participants. Furthermore, the committee makes decisions as to whether NOMX DM's own financial resources should be increased. The committee's routines are continually monitored by the board of NOMX STO. Final decisions with regard to defaulting participants are made by the CEO of NOMX STO.

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

■ 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.

Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 7 is observed.

Considerations

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

Swedish collateral institutions, also called custodial banks, hold the securities pledged as collateral with central securities depositories that apply rules and routines, which, according to the Riksbank and Finansinspektionen, observe Recommendation 12 on protection of the customer's securities in Recommendations for Securities Settlement Systems (RSSS).²⁷ The Riksbank and Finansinspektionen find that NOMX 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 that the rules and routines applied to a collateral institution prevent delays of any significance.

Employing collateral institutions also means that NOMX DM does not know which marginal collateral has been pledged. If this were known, the total exposure in pledged collateral and own assets for each type of asset would be revealed. This supports the conclusion of the Riksbank and Finansinspektionen, stated in Recommendation 4, to the effect it would be an improvement for NOMX DM to know what collateral had been pledged.

Statement

Administration of collateral

NASDAQ OMX DM does not itself administer the collateral pledged for commitments made in the clearing operations. 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 NOMX DM. A list of collateral institutions approved by NOMX DM is included 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 NOMX DM in a safe manner and report that adequate collateral has been pledged for each particular clearing account. The application to become a collateral institution is examined and approved by NOMX DM, which also monitors the collateral institution on a continuous basis. On approval of the application, the collateral institution is admitted to NOMX DM by entering into a collateral institution agreement.

Clearing Control AB (CCAB) is tasked with ensuring that customer agreements are correct and conducting annual random sampling to check that the collateral pledged is acceptable and correct. When necessary, NOMX DM has the right to be told the end-customer's identity by CCAB.

A majority of the collateral institutions are also clearing members at NOMX DM and handle collateral on behalf of their customers. However, the collateral institution cannot administer its own collateral

²⁷ www.riksbank.se



- or collateral pledged by an affiliated company within the same group. Such collateral must be administered by another collateral institution.

NOMX DM has no knowledge of the composition of the collateral held by the collateral institutions. As a result, NOMX DM has no knowledge either of the value changes that may arise in the collateral stock during the day.

Management of the clearing capital

NASDAQ OMX Treasury AB manages NOMX DM's assets and OMX Capital Insurance AG's liquid funds. Management must adhere to the NASDAQ OMX Group's investment policy for clearing capital. The assets and liquid funds must be invested in government securities with a very low market and liquidity risk.

NASDAQ OMX Treasury AB, a subsidiary of the NASDAQ OMX Group, 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 NOMX DM and OMX Capital Insurance AG is regulated in agreements and OMX Treasury AB reports back regularly on the outcome of its management. Clearing capital funds under management are separated from other funds in the Group and cannot be used for any purpose other than to cover counterparty risks that may arise at NOMX STO as a central counterparty. Separation is achieved by having the funds deposited in a special account, known as an "escrow account".

Recommendation 8: Operational risk

A CCP should identify sources of operational risk, monitor and regularly assess them. The CCP should minimise these risks through the development of appropriate systems, and effective controls and procedures. Systems and related functions should be (i) reliable and secure, (ii) based on sound technical solutions, (iii) developed and maintained in accordance with proven procedures and (iv) have adequate, scalable capacity. The CCP should have appropriate business continuity and disaster recovery plans that allow for timely recovery of operations and fulfilment of a CCP's obligations. Systems should be subject to frequent and independent audits.

Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 8 is observed.

Considerations

As a result of the integration between NASDAQ and OMX, NOMX STO carried out in 2009 a reorganisation and change in the way of managing operating risks in order to comply with the NASDAQ OMX Group's policy on operating risks and the requirements of the Sarbanes-Oxley Act.

The new organisation to analyse and follow up operating risks represents a strengthening of provision since the previous year's assessment.

Statement

The wide-ranging analysis of the NASDAQ OMX Group's operating risks is conducted (annually, with half-yearly updates) in the Global Risk Management Department. The analysis is conducted within an "Enterprise Risk Management" (ERM) framework, which has been adapted to the Committee of Sponsoring of the Treadway Commission Enterprise Risk Management Framework (COSO). The most recent analysis on behalf of NOMX DM was conducted in April 2009. The analysis results are reported to NOMX DM's executive management and, where appropriate, also the Group management. The analysis is used, for example, as a basis for assessing the requirement for insurance and capital requirements to cover operating risk.

In addition, a separate, independent analysis of the Internal Audit Department at NASDAQ OMX is performed. A separate unit exists to follow up compliance within the Group of the requirements of the Sarbanes-Oxley Act.

Risk management is based on the ERM policy applied under the former principal owner. This has now been integrated into the new organisation, supplemented by Crisis Management, Business Continuity Management, Outsourcing Guidelines and IT Security policies. Control procedures have been developed and are followed up by management at different levels. These procedures include, for example, ensuring that all systems exposed to the Internet are tested, by an external company, for vulnerability to hacking. In addition, rules have been introduced requiring that operating risks are to be analysed on the launch of new products or in the event of organisational changes.

Operation of NOMX DM's system has been outsourced to another part of the Group, Global IT Services. However, individual, critical IT systems are not shared with any other party. SLAs (Service Level Agreements) regarding, for example, service levels, incident management etc. are in place, are monitored continuously (with twice-weekly meetings) and are the subject of monthly reports.

A Business Continuity Plan (BCP) has been established. This includes, for example, procedures for handling various types of disruption in operations. They are tested regularly. An alternative place of

- business is always available and may be placed in service within 45-75 minutes. This provision is tested regularly, including one full-scale test per year. IT systems are operated in parallel in two mirrored, physically separated locations. Should one of these go down, it must take less than two minutes for those who are connected to the system affected to be reconnected. Transactions are always confirmed or rejected, meaning that the participants are always in control of the status of their transactions, even following a breakdown in service.

NOMX DM has developed manual backup plans in the event of failure due to either hardware or software problems, for example in the core application SECUR. This includes telephone contact lists etc.

Twice a year, all participants are invited to a Clearing Forum in Stockholm, Helsinki and Copenhagen, respectively, where operating risk and BCP issues, among others, are discussed.

The target for availability in SECUR between 8.00 a.m. and 6.00 p.m. is 99.90%. In 2009, the outcome was 100%.

Recommendation 9: Money settlements

A CCP should employ money settlement arrangements that eliminate or strictly limit credit and liquidity risk. If central bank money is not used, steps must be taken to strictly limit cash settlement risks, that is, credit and liquidity risks stemming from the use of banks by a CCP to effect money settlements with its participants. Funds transfers to a CCP should be final when effected and rely on efficient and safe payment systems.

Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 9 is observed.

Considerations

The major portion of cash settlements is made in SEK and DKK through the payment systems of the relevant central bank - that is to say, in central bank money.

A minor portion of cash settlements takes place in NOK, ISK, EUR and USD. The participants who make settlements in these currencies and who are members of the relevant central bank's payment system make settlements in central bank money, while those participants who are not members of the central banks' payment systems utilise a settlement bank. NOMX DM takes a risk in connection with the settlement of these currencies, as this settlement takes place through the settlement bank used by NOMX DM in the respective country. NOMX DM has approved the settlement bank in accordance with the standards for collateral institutions, and continually monitors each settlement bank. All relevant payment systems are deemed to provide "intraday finality" and have been evaluated in accordance with international standards.

Statement

NOMX DM operates two types of payment flows: (1) a pure cash settlement which takes place when a contract is fully or partly redeemed in cash, and (2) types of payment flows that arise when securities are exchanged against cash.^{28,29} This recommendation covers pure cash settlements, whereas transfers of securities and the relevant cash payments are dealt with partly by this Recommendation and partly by Recommendation 10.

The predominant portion of NOMX DM's payments are made in SEK. Cash settlements in Sweden take place via the Riksbank's payment system and so, because NOMX DM is a participant in the RIX system, the major share of NOMX DM's cash settlements is made in central bank money.

Payments made in conjunction with securities settlement take place through a settlement bank. NOMX DM manages the risk vis-à-vis the settlement bank through monitoring and by specifying requirements. NOMX DM's clients have no credit exposure to the settlement bank.

Settlement in DKK is made into the payment system of Danmarks Nationalbank, KRONOS. NASDAQ OMX DM is, itself, a member of KRONOS.

In addition to Swedish derivative financial instruments, NOMX DM offers trading and clearing of Finnish, Danish, Baltic and Russian derivative financial instruments.³⁰ In 2009, NOMX DM terminated its link cooperation with the derivative exchanges in Norway and the UK. The major share of the

²⁸ Pure cash settlements take place in conjunction with payments of premiums, fees and daily settlements of futures contracts.

²⁹ That is, the payment flows that arise after redemption of a contract and the exchange of the underlying security against cash (Delivery versus Payment) via the local CSD.

³⁰ Trading in Russian derivative instruments was temporarily suspended in autumn 2008, due to the impact of the financial turbulence on the Russian market. In 2009, NASDAQ OMX permitted contracts in Russian derivatives, but there was no market for them. It was announced in February 2009 that NASDAQ OMX will not be offering trading and clearing of Icelandic derivative products henceforth.



- derivative contracts that NOMX DM entered into via the link cooperation has been concluded and only a few remain. These will be concluded in 2010.

In the case of the currencies where NOMX DM has derivative contracts but is not a member of the equivalent to RIX in the currency area, NOMX DM uses settlement banks. The settlement banks conduct the cash settlement via an account that NOMX DM holds at the bank. As a result, NOMX DM assumes a credit risk, as well as an operating risk at the settlement bank. NOMX DM manages these risks by specifying requirements vis-à-vis the settlement banks and by maintaining a range of options for each currency.

NASDAQ OMX DM conducts ongoing verification to ensure that cash settlements are taking place in accordance with the relevant instructions. In RIX and KRONOS, NOMX DM confirms that payments are correct before settlement. Payments and account balances in each settlement bank are checked on a daily basis. Each settlement bank is a member of the local central bank's payment system in the respective country, and is an approved securities institute in accordance with NOMX DM's derivatives regulations. NOMX DM monitors the settlement banks' financial stability on an ongoing basis.

The payment systems used for NOMX DM's cash settlement satisfy the requirements for intraday finality by virtue of the fact that all countries concerned meet the requirements of the Finality Directive.

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.

Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 10 is observed.

Considerations

NOMX DM's rules and regulations lay down clear rules for physical delivery of securities. They also describe how delayed deliveries are to be handled. Normally, the securities are delivered by a central securities depository, excluding any credit risk. However, a replacement cost risk may arise in the event that a counterparty cannot deliver securities in time. To handle this risk, NOMX DM has agreements with two banks on raising securities loans, as well as on the ability to buy in securities.

Statement

NOMX DM's rules and regulations state clearly that it is part of NOMX DM's role as a central counterparty to deliver and receive securities. Deliveries are always made by DvP (Delivery versus Payment), eliminating credit risk. The net amount on all accounts at the end of every delivery day shall be zero. NOMX DM employs a delivery margin for all equity products delivered in physical form.

The remaining risk for NOMX DM is the replacement cost risk, that is, the costs arising when one party in a transaction does not receive a security within the agreed timeframe and must itself acquire it. NOMX DM handles this in the same way as for other open exposures, namely via counterparty limits and, ultimately using clearing capital. Any extra costs incurred as a result of delayed delivery or non-delivery may be passed on to the counterparty at fault.

To limit the risks that may arise through NOMX DM's obligation to deliver securities to its counterparties, NOMX DM has agreements with two banks on raising securities loans and on a facility for buying in securities.

Delivery and custody of securities take place in dematerialised form and are administered by the central securities depositories Euroclear Sweden, VP Securities (Denmark), Icelandic Securities Depository and Euroclear Finland. NOMX DM is a member of the settlement systems in those countries. In Norway, NOMX DM is not a member of the Norwegian CSD, but uses Nordea as a custodial and settlement bank in Norway. Russian depository receipts are delivered via DTCC or Euroclear. NOMX DM is not a member of either, but uses SEB as a custodial bank.

Recommendation 11: Risks in links between CCPs

Any CCP that establishes links either cross-border or domestically to clear trades should design and operate such links so that they effectively reduce the risks associated with the link. It should evaluate the potential sources of risks that can arise from the linked CCP and from the link itself. It should ensure that the risks are managed prudently on an ongoing basis. There should be a framework for co-operation and co-ordination between the relevant regulators and overseers.

Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 11 is observed.

Considerations

NOMX DM has analysed its risks, both operating and legal, in its links with Oslo Børs, Oslo Clearing ASA och LCH Clearnet AB. Finansinspektionen has established cooperation for supervision with the regulatory bodies in Norway and the UK.

Since 7 December 2009, the links are no longer active for transactions and only a few transactions remain for final settlement. On 19 December 2009, NOMX DM gave notice of termination of its agreement with LCH Clearnet AB. The transactions remaining for settlement have been transferred to the Oslo link. A new supplementary agreement on settlement of "old transactions" has been drawn up but no new transactions via the link are permitted.

Statement

NOMX DM has two links, 1) with Oslo Børs and with Oslo Clearing ASA, through which members of NOMX DM are offered the facility of clearing derivatives traded on NOMX DM and Oslo Børs; and 2) with LCH Clearnet AB. This link is used to clear transactions between members of NOMX DM, Oslo Børs and EDX London Ltd. The link with Oslo operates under Swedish law. The link with London operates under UK law.

NOMX DM has conducted analyses of operating, credit, liquidity and settlement risks for its links. The Risk Management Department is responsible for managing these risks. Separate link agreements are in place to regulate information exchange and crisis management. The agreements also regulate marginal collateral requirements that arise as a result of the mutual exposures between the participating clearing organisations.

Recommendation 12: Efficiency

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

Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 12 is observed.

Considerations

Direct cost comparisons are difficult in view of NOMX DM's dominant position in the market in CCP cleared derivatives. Price reductions were made during the year.

NOMX DM has several forums for observations and comments by its clients/market participants. A customer satisfaction survey has been conducted since 2004, but did not take place in 2009. NOMX DM should continue with this survey, and this is said to be in NOMX DM's plans.

Availability of the system is high (100% in 2009).

Statement

Historically, NOMX DM has been the only derivatives clearing organisation in the Swedish market, with its only major "competition" coming from bilateral clearing between the financial players. However, the implementation of MiFID has generally led to increased competition in the exchange and clearing sector, above all in equities trading. One indication that this is affecting derivatives trading as well may be that the former link cooperation is now shrinking. The company keeps its prices in its various markets under continuous review. During the year, NOMX DM cut its prices in several areas, including Swedish index options, Finnish equities futures and options etc.

NOMX DM has a number of separate forums/advisory boards for observations/comments and wishes from market participants. One example is the Derivatives Market Committee, which meets eight times a year. The Swedish Securities Dealers Association (Svensk Fondhandlareföreningen) also takes part in this committee. The meetings discuss trading- and product-related issues, as well as proposed changes to the rules and regulations (normally half-yearly). Other forums include the IT Forum, Risk Management Forum, Operations Forum and Fixed Income Advisory Board.

As regards operating issues, meetings are held every other week with OMX Technology AB to monitor compliance with agreed service levels. NOMX DM's Board of Directors are kept updated on availability and other operating issues at every Board meeting.

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 relevant market participants. In particular, they should promote the effectiveness of a CCP's risk management procedures.

Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 13 is observed.

Considerations

NOMX DM is a registered secondary legal name of NOMX STO. The Board of Directors of NOMX STO is responsible for decisions affecting central counterparty clearing. NOMX STO's own governance is difficult to determine, as this information is focused on the NASDAQ OMX Group. However, public information on owner(s), board of directors and management with regard to the legal entities concerned is available.

NOMX DM's Risk Management Department reports directly to Group Finance, indicating that a clear separation exists in the reporting chain between risk management and the other operations. The annual report includes feedback on NASDAQ OMX Nordic Oy's targets and accomplishment of its objectives, which are subsidiary objectives of the NASDAQ OMX Group. NOMX DM has arrangements in place for managing conflicts of interest.

In the assessment for 2008, Finansinspektionen and the Riksbank identified shortcomings in various aspects of NOMX DM's internal control, as a result of which the conclusion was that the recommendation may only be regarded as partly observed. Measures concerning the shortcoming observed in 2008 were taken during 2009. Improvements intended to improve the internal control environment were introduced during 2009 and in early 2010.

Statement

Our recommendation refers, first, to the organisation and governance of the company and, second, to the organisation of risk management. According to the legal structure of the Group, NASDAQ OMX Stockholm AB (NOMX STO) is a subsidiary of NASDAQ OMX Nordic Oy. The ultimate Parent Company of the Group is NASDAQ OMX Group Inc. Derivatives operations at NOMX STO are conducted within NOMX DM, which is registered as a secondary legal name.

The Board of Directors of NASDAQ OMX Nordic Oy is made up of ten external members and the Chairman of NOMX STO. The Board of Directors of NOMX STO consists of internal board members. Finansinspektionen conducts a suitability assessment of the members of the Boards of Directors both of NOMX STO and the Parent Company. Among other criteria, the suitability requirements specify that the Board of Directors, as a whole, shall possess sufficient experience of the financial markets. The Board of Directors of NOMX STO is responsible for decisions affecting central counterparty clearing. The Board of Directors of the Parent Company bear a particular responsibility for policies and guidelines at NOMX STO.

NASDAQ OMX's website describes the organisation and operations primarily from a Group perspective. However, information on the Boards of Directors of NASDAQ OMX Nordic Oy and NOMX STO is provided on NASDAQ OMX's website. Important Board decisions are published via press releases and general information on NOMX STO is available from sources such as Bolagsverket (the Swedish Companies Registration Office).

■ In order to obtain the opinions of participants in the market regarding the services provided by NOMX DM, work is being conducted with several different participant groups. NASDAQ OMX runs several different forums of its own, in which participants are able to present their opinions. In addition, in collaboration with Svenska Fondhandlarföreningen (the Swedish Securities Dealers' Association), the company runs Derivatmarknadskommittén ("the Derivatives Market Committee"), which primarily focuses upon derivative-trading issues and Clearinggruppen ("the Clearing Group"), which focuses on strictly clearing-related issues.

The risks associated with the operations of NOMX DM are assessed and managed by the Risk Management Department. The head of this department reports directly to the person responsible for managing financial risks in the Group, who in turn reports to the Group's CFO. Reporting on risks is also conducted directly to the Board of Directors of NASDAQ OMX Stockholm AB (NOMX STO) and to the Board of Directors of NASDAQ OMX Nordic Oy. A risk report is prepared for each Board meeting; the report includes, for example, information on counterparty risks, market risks and important decisions regarding risk management. NOMX DM has arrangements in place for managing conflicts of interest.

One important area of risk management consists of the validation of the security calculations. For this purpose, NOMX DM back-tests the valuation model. One deficiency during 2008, observed by the system operator, was not passed on within the organisation. As a result, the tests performed during the period after quarter 1 until the end of 2008 did not deliver an accurate result. Remedial actions were taken during 2009. Improvements intended to improve the internal control environment were introduced during 2009 and in early 2010.

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.

Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 14 is broadly observed.

Considerations

In the view of the Riksbank and Finansinspektionen, Recommendation 14 requires that not only NOMX DM's existing participants but also its potential participants shall receive the information deemed necessary for the assessment of the risks and costs associated with the central counterparty. Consequently, the information required to satisfy this recommendation should be readily available. As NOMX DM conducts end-customer clearing, information requirements are even more stringent, as end-customers who are not professional financial players must also be able to make use of NOMX DM's information. Consequently, this information must be clear, easy to understand and readily available.

The Riksbank and Finansinspektionen consider that NOMX DM provides its participants, in all essentials, with the information they require to assess the risks and costs associated with the derivative clearing activities of NOMX DM.

- The publication *OMX Derivatives Market as Counterparty* provides clear information on NOMX DM's activities and matches the degree of clarity considered appropriate by the Riksbank and Finansinspektionen.
- NOMX DM's website includes a link to the Riksbank and Finansinspektionen's evaluation of NOMX DM's activities as central counterparty. The evaluation includes NOMX DM's responses to the key issues described in the European Central Bank (ECB) and the Committee of European Securities Regulators' (CESR) *Recommendations for Central Counterparties*.
- The Riksbank and Finansinspektionen publish their evaluation of NOMX DM's activities as central counterparty.

Statistics on availability in NOMX DM's clearing system for derivatives are not published on NOMX DM's website but are provided on request.

NOMX DM did not provide any information to the general public or the clearing participants on the change in its clearing capital when it was introduced in December 2009. NOMX DM's information on the change in its clearing capital was not published until March 2010.

Comment

In November 2009, the clearing operations of NOMX DM were expanded through the addition of clearing of electricity derivatives and other contracts traded on the Nord Pool ASA power exchange, which affect the risks encountered at NOMX DM. In December 2009, NOMX STO made a change to the capital that it is legally required to maintain to cover the risks present in its operations. However, the financial resources available at NOMX STO, of which the clearing capital forms part, were retained in their entirety. The change to NOMX STO's financial resources was not made until the general public had been informed in March 2010.

The clearing capital, however, is the capital that the central counterparty must maintain at all times for clearing operations. Other financial resources may be at the disposal of the shareholders. The clearing capital is subject to specific provisions and is kept separate from other funds in the Group.

■ The Riksbank and Finansinspektionen consider that the information on the clearing capital is an important part of transparency as a central counterparty.

The Riksbank and Finansinspektionen consider that the changes made in December in the clearing capital were of material significance and that information should have been published no later than at the time the changes were made, which was not done. Consequently, Recommendation 14 is considered only to be broadly observed.

The Riksbank and Finansinspektionen also consider that NOMX DM should on an ongoing basis publish availability statistics for derivative clearing in SECUR, as well as data on availability in relation to the availability target.

Statement

NOMX DM provides the following information on its website:

- NOMX DM's derivatives rules and regulations
- Information regarding the legal support for clearing
- Costs associated with clearing
- Information on derivatives activities and NOMX DM's role as a central counterparty
- Statistics on the volumes of transactions in derivatives trading, in the form of both turnover and the number of outstanding contracts. Details of the average daily value for collateral pledged to NOMX STO are available on an annualised basis.
- A certain amount of information regarding NOMX DM's corporate governance can be gathered from the information presented for the NASDAQ OMX Group

NOMX DM's derivatives rules and regulations underpin the various stages of derivatives clearing. The rules and regulations provide instructions regarding risk management policy and security policy, if and when NOMX DM assumes counterparty risks, the rights and obligations of NOMX DM and dealing with the parties involved in a bankruptcy situation. Recommendation 1 on legal risk includes a more detailed description of the rules and regulations covering derivative financial instruments.

NOMX DM discloses information regarding its operations, the organisation and activities of the risk management function, bankruptcy administration, bankruptcy history and its routines for the management of securities. In the publication *OMX Derivatives Market as a Counterparty*, NOMX DM provides a clear description of its operations in a more straightforward manner than in the rules and regulations on derivatives. For example, this publication discusses participants' rights and obligations towards NOMX DM, as well as NOMX DM's risk management activities.

NOMX DM describes its commitments as central counterparty in a clear manner, both via the Internet and in *OMX Derivatives Market as a Counterparty*. On the website, it is stated that, as central counterparty, NOMX DM undertakes to act as counterparty in all transactions, thereby guaranteeing the completion of the transactions.

All information published on the Internet is in English. In addition, portions of this information are available in Swedish, Danish, Finnish and, in some cases, Icelandic. The publication *OMX Derivatives Market as Counterparty* is only available in English.

In November, the clearing operations of NOMX DM were expanded through the addition of clearing of electricity derivatives and other contracts traded on the Nord Pool ASA power exchange, which affect the risks encountered at NOMX DM. In December 2009, a change was made to the clearing capital as a result of the expansion in clearing operations. Information on the changes made in December was not provided to the clearing participants or the public. The publication *OMX Derivatives Market as Counterparty* was not updated until 4 March 2010.

Recommendation 15: Regulation and oversight

A CCP should be subject to transparent, effective and consistent regulation, supervision and oversight. In both a national and a cross borders context, central banks and securities regulators should cooperate with each other and with other relevant authorities regarding the CCP. Such cooperation should also ensure a consistent implementation of the recommendations.

In this recommendation, the Riksbank and Finansinspektionen separately present the work conducted in connection with supervising and monitoring of the requirements placed by Recommendation 15 with regard to supervision and monitoring.

The Riksbank and Finansinspektionen have opted not themselves to assess their own work. The supervisory and monitoring work of the Swedish authorities was last evaluated in the IMF's Financial Sector Assessment (FSAP) of Sweden in 2002. On that occasion, the IMF found that the requirements had been partially fulfilled. In its considerations, the IMF argued that supervision needed to be developed further and that the Riksbank's lack of means of bringing legal pressure to bear constituted a weak point in supervision.³¹

Finansinspektionen

Regulation and supervision

The conduct of clearing activities in Sweden requires licensing in accordance with the *Swedish Securities Market Act (SFS 2007:528)*. NASDAQ OMX Stockholm AB has been granted such a license by Finansinspektionen, which also exercises supervision. In order to conduct this supervision, Finansinspektionen possesses the right to demand the information deemed necessary, both from NOMX DM and from other parties. Finansinspektionen also possesses the right to conduct on site investigations. Should NOMX DM fail to comply with the requirements deemed necessary for the conduct of clearing activities, Finansinspektionen possesses the right to revoke the license, signifying that these activities must cease. Finansinspektionen's rights are stipulated in the *Swedish Securities Market Act (SFS 2007:528)*, the *Swedish Financial Instruments Trading Act (SFS 1991:980)* and the *Swedish Act on Systems for Settlement of Obligations on the Financial Market (SFS 1999:1309)*. In addition to companies licensed to conduct stock exchange and clearing operations, the rules and regulations also cover the clearing participants.³²

Supervision of stock exchange and clearing organisations is primarily exercised by a supervisory group of four individuals within the Markets Department. Licensing matters and support in legal issues are dealt with by the Legal Department. Issues of supervision and analyses of particular risk areas are handled by various risk analysis units in Finansinspektionen, which perform investigations on the basis of the current supervision plan.

³¹ IMF "Sweden: Financial System Stability Assessment, including Reports on the Observance of Standards and Codes on the following topics: Monetary and Financial Policy Transparency, Banking Supervision, Securities Regulation, Insurance Regulation, and Payment Systems". IMF Country Report no. 02/161, August 2002, point 55, p. 23. 23.

³² Entities participating in clearing operations on behalf of a third party must be either financial institutions under the supervision of Finansinspektionen or foreign companies under equivalent supervision in their country of domicile. Clearing participants who only participate in clearing activities on their own account and who are not under the supervision of FI or equivalent supervision in their country of domicile are obligated to provide information on circumstances affecting their participation in clearing activities, when requested by FI.

■ *Objectives of the supervision*

Finansinspektionen is an authority responsible for the supervision of financial markets, marketplaces and financial companies. Its overall objective is to contribute to the stability and efficiency of the financial system and to work for effective consumer protection. In order to achieve these goals, Finansinspektionen draws up rules for financial operations, grants licenses, exercises supervision and analyses changes in the external environment. Companies under the supervision of Finansinspektionen include banks and other credit institutions, securities companies, trusts and fund management companies, stock exchanges, clearing organisations and insurance companies.

At present, the most highly prioritised companies are the four major banking groups, as well as NOMX STO and Euroclear Sweden. Each of these is deemed to have a significant impact on the financial market and is thus subject to more comprehensive investigations and supervisory measures. This supervision includes assessing NOMX DM as a central counterparty in securities clearing in accordance with the European Central Bank (ECB) and the Committee of European Securities Regulators' (CESR) *Recommendations for Central Counterparties In The European Union May 2009*.

Finansinspektionen's overall objectives and operational focus are presented in the annual report and operational focus documentation, among others. These and other documents are available on the website (www.fi.se). The website also presents various supervisory reports, for example, the annual report on the stability of the financial sector.

Current reporting to the authority

Finansinspektionen regularly meets with representatives of NOMX STO to review all changes in operations, according to a fixed agenda, covering, amongst other points, changes in products and services, organisation, systems and rules and regulations. NOMX STO reports financial information to FI each quarter. In accordance with Finansinspektionen's general guidelines (2005:12), NOMX STO has a reporting obligation as regards significant events, such as any failure by NOMX STO to fulfil its commitments to its clients or the occurrence of faults in the technical systems. NOMX STO is also subject to this reporting obligation as regards outsourced operations. A prerequisite for outsourcing is that Finansinspektionen has full insight, via NOMX STO.

Cooperation with foreign authorities

Finansinspektionen has signed special agreements with the Finnish, Danish and Norwegian supervisory authorities, Rahoitustarkastus (the Finnish Financial Supervision Authority), Finanstilsynet (the Danish Financial Supervisory Authority) and Finanstilsynet Norge (the Norwegian Financial Supervisory Authority) regarding collaboration in the supervision of the stock exchange and clearing activities of the NASDAQ OMX Group. The aim of this collaboration is to ensure effective and comprehensive insight. The authorities hold regular meetings for the exchange of information, to consult in cross-border matters and to perform joint inquiries.

The Riksbank

As a central counterparty in the clearing of derivative financial instruments, NOMX DM plays a significant role in the stability of the financial system, and thereby in the supervisory work of the Riksbank.

Monitoring

The basis of the Riksbank's supervisory role is formed by the *Sveriges Riksbank Act*³³, according to which the Riksbank is responsible for the promotion of a safe and efficient payment system. In

³³ *Swedish Riksbank Act (1988:1385)*.

■ In addition, the Riksbank is empowered to act as a lender of last resort, in the form of credits granted under special terms and conditions. The *Sveriges Riksbank Act* also provides the Riksbank with the right to demand from institutions any information the Riksbank deems necessary for its supervisory activities.

The Riksbank has defined two overall objectives from the responsibilities stipulated by the *Sveriges Riksbank Act*. The Riksbank is to act to reduce the risk of any crisis arising in the Swedish financial system. As a result, the risk of being required to support institutions with emergency liquidity assistance is also reduced. If, despite everything, a crisis should develop, the Riksbank should have the ability to manage the crisis at the lowest cost possible - that is to say, the Riksbank should have a satisfactory crisis management capacity.

The Riksbank's supervision of the systematically important financial infrastructure constitutes a central element of its role of reducing the risk of a financial crisis. An analysis of the risks arising in the clearing and settlement of payments and securities transactions forms the basis of this supervision. In its work of supervision, the Riksbank identifies the extent to which such risks have been managed through market practice or via the development of rules, regulations and routines or technical systems. If the Riksbank identifies deficiencies in risk management, the Riksbank attempts to initiate appropriate changes or an investigation to identify the measures to be implemented. However, the Riksbank does not have any legal means of requiring market players to undertake any action. Instead, the Riksbank attempts to enjoin players to act, by means of what is known as "moral suasion"³⁴. Two expressions of this moral suasion are the publication of the assessments and the presentation of the results of the supervisory work in the Riksbank's report *Financial Stability*.

The Riksbank concludes that NOMX DM is systematically important in its role as central counterparty in derivatives clearing, despite the fact that the amounts handled are relatively small. The basis for this view is that the counterparty risks that the parties in a transaction would have had towards each other have, instead, been assumed by NOMX DM in conjunction with clearing, when NOMX DM acts as central counterparty. Accordingly, there exists a risk that disruptions in NOMX DM will spread to other institutions and other areas of the payments system. All derivative financial instruments traded on NOMX DM are automatically cleared in NOMX DM's system. Consequently, parties trading with these derivatives have no alternative but to utilise NOMX DM's central counterparty service. Consequently, as a part of its supervision of the financial infrastructure, the Riksbank annually evaluates NOMX DM's operations as central counterparty in the clearing of derivatives, in accordance with European Central Bank (ECB) and the Committee of European Securities Regulators' (CESR) *Recommendations for Central Counterparties*.

In its supervision of NOMX DM, the Riksbank strives to ensure that NOMX DM manages counterparty risks in a sound manner, while maintaining firm financial resources and routines to minimise settlement risks. The assessment of NOMX DM's role as central counterparty vis-à-vis European Central Bank (ECB) and the Committee of European Securities Regulators' (CESR) *Recommendations for Central Counterparties* forms a significant portion of the Riksbank's supervisory work. In the event that risks or efficiency losses are identified, these are highlighted in order to bring about appropriate changes.

At the Riksbank, the Financial Infrastructure Division of the Financial Stability Department deals with the supervision of the financial infrastructure. Of the total of nine individuals working within this unit, three work on clearing and settlement issues. In addition, specialist skills within the areas of risk management, law and IT are available within the Riksbank.

The Riksbank published a general account of its role in 1995.³⁵ A presentation of the Riksbank's view of its mandate was published in 1997³⁶ and a description of the Riksbank's supervisory role was

³⁴ "Moral suasion" consists of informal pressure, as opposed to formalised forcible means

³⁵ *Financial Market Report 1995:1*

³⁶ *Financial Market Report 1997:1*.

published in 2001³⁷. Both of these publications, as well as speeches and responses to consultations dealing with the financial markets, are available from the Riksbank's website. Furthermore, the result of the Riksbank's work in the supervision of NOMX DM is presented annually in the Financial Stability report. The complete results of the evaluation of NOMX DM are also available on the Riksbank's website.

Collection of information

Pursuant to the *Sveriges Riksbank Act*, the Riksbank has the right to demand any information that the Riksbank deems necessary to the exercise of its mandate. In order to collect this information, the Riksbank utilises:

- Quarterly meetings, at which representatives of the Riksbank meet with representatives of NASDAQ OMX STO to discuss NOMX DM's operations as central counterparty. These meetings focus upon NOMX DM's activities, systems operation and risk management.
- Analysis of the availability of the clearing system SECUR in the RIX system. As the cash settlement of NOMX DM is effected in the Riksbank's payment system, RIX, the system's technical robustness can be analysed on the basis of accessibility in RIX.
- An annual evaluation of NOMX DM as central counterparty, in accordance with international standards. This entails an annual update by NASDAQ OMX Stockholm of the information provided to the Riksbank for this purpose.

Within the framework of its international work, the Riksbank also actively participates in the gathering of information and statistics for various purposes.

Cooperation between the Riksbank and Finansinspektionen

In 2003, the Riksbank and Finansinspektionen signed an agreement covering cooperation in issues of financial stability. In 2005, this agreement was amended, for example, to also include the Swedish Ministry of Finance. This agreement has enabled the authorities to unite over guidelines for consultations and the exchange of information in their work on financial stability and crisis management.³⁸

In the autumn of 2005, the Riksbank and Finansinspektionen decided to extend their cooperation to include a joint evaluation of the Swedish clearing and settlement systems.³⁹ Accordingly, collaboration among the authorities has been intensified through a more comprehensive exchange of both information and working methods. However, the Riksbank and Finansinspektionen are in agreement that this collaboration can be further improved so as to streamline both oversight and supervision.

³⁷ Martin Andersson, Gabriela Guibourg and Björn Segendorf, *Riksbankens roll som övervakare i den finansiella infrastrukturen*, (The role of the Riksbank as monitor of the financial infrastructure) Penning- och valutapolitik 2001:3

³⁸ See www.fi.se and www.riksbank.se.

³⁹ Cooperation takes place in the evaluation of NOMX DM's derivatives clearing, Bankgirocentralen's payment system and the evaluation of securities settlement at Euroclear Sweden.

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