

## ■ Assessment of Securities Settlement in Sweden 2010

Financial markets have several important functions. They convert savings into investments, provide means for managing risk and offer payment services. Securities transactions are vital to all three functions. Purchasing securities is a way to make investments, and pledging securities is a means of reducing the risks associated with credit exposures. Banks and institutions which are part of RIX, the Riksbank's system for large interbank payments, can only obtain intraday credit if they have pledged securities to the Riksbank. On the Swedish securities market, Euroclear Sweden is responsible for account operations in its role as a central securities depository and manages securities transactions after closing in its role as a clearing organisation and settlement system for securities.

Considering the great significance of securities transactions, both the Riksbank and Finansinspektionen consider it important to evaluate the manner in which these are handled after closing on the Swedish market. The Riksbank and Finansinspektionen classify Euroclear Sweden as an institution of importance for the stability of the financial system.

This assessment complies with the recommendations and methods drawn up by the European System of Central Banks (ESCB) in cooperation with the Committee of European Securities Regulators (CESR), Recommendations for Securities Settlement Systems in the European Union, May 2009.

### Summary

In accordance with the current agreement on cooperation in the area of financial stability, the Riksbank and Finansinspektionen have conducted this assessment jointly. Both of these authorities have collaborated on the planning of the direction of the assessment and in the collection and review of the information provided by Euroclear Sweden. Both the Riksbank and Finansinspektionen stand behind the conclusions of this assessment.

In the assessment, the Riksbank and Finansinspektionen have reviewed the handling of securities transactions from closing until the implementation of the final settlement in Euroclear Sweden's system, the VPC system. This assessment is based on:

- the recommendations of ESCB-CESR,
- the responses provided by Euroclear Sweden to the key questions of these recommendations,
- interviews with Euroclear Sweden's participants<sup>1</sup>, and
- the documents cited in the list of references.

The assessment is based on 19 recommendations, all but two of which have been applied to Euroclear Sweden. The Riksbank and Finansinspektionen subsequently assess the degree to which Euroclear Sweden observes each recommendation. The recommendations are rated as observed, broadly observed, partly observed or not observed.

<sup>1</sup> Ten of Euroclear Sweden's participants were interviewed regarding their views on the VPC system and Euroclear Sweden's services.



Recommendation 18 refers to regulation, supervision and oversight. The assessment includes a description of the regulations covering Euroclear Sweden as well as the oversight and supervision conducted by each authority. The authorities have deliberately refrained from making their own assessment of the degree to which this recommendation has been observed.

It is the assessment of the Riksbank and Finansinspektionen that Euroclear Sweden broadly observes Recommendation 13 Governance and fully observes the other recommendations, as demonstrated in the following table. The recommendation that was not assessed deals with the role of the authorities. The Riksbank and Finansinspektionen do not believe that they should be rating their own work. The recommendation that was deemed not applicable is irrelevant for Euroclear Sweden's operations, and, consequently, cannot be assessed.

Assessment categories	Recommendations
Observed	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 14, 15, 16, 17, 19
Broadly observed	13
Partly observed	
Not observed	
Not applicable	9
Not assessed	18

## Background

In Sweden, equity trading is conducted on the regulated markets of Nasdaq OMX Stockholm AB (OMX) and Nordic Growth Market NGM AB (NGM). In addition, equity trading is conducted in the trading facilities (MTF) First North (NASDAQ OMX), Nordic MTF (NGM), Burgundy and Aktietorget. Furthermore, Swedish shares are traded in European trading facilities such as Chi-X and Turquoise. The bulk of trading, even in terms of turnover, primarily takes place on NASDAQ OMX, where most companies are listed. The majority of debt securities are traded by telephone, Over the Counter (OTC).<sup>2</sup>

Euroclear Sweden is the Swedish Central Securities Depository (CSD) and Sweden's only domestic system for securities settlement.

### Legal status and oversight

Euroclear Sweden is licensed by Finansinspektionen to conduct clearing operations. It is also an authorised CSD and thereby falls under the supervision of Finansinspektionen. After consultation with the Riksbank, Finansinspektionen has approved Euroclear Sweden's settlement system for securities and registered it with the European Commission in accordance with the Swedish Act on Systems for the Settlement of Obligations on the Finance Market (SFS 1999:1309).

### Ownership structure

In 2008, the Belgian group Euroclear acquired all shares in NCSD Holding, which owned 100 per cent of VPC AB and Suomen Arvopaperikeskus Oy (APK), the Finnish CSD. The Euroclear group is a 'user-owned infrastructure company', which is common among CSDs. The Euroclear Group has approximately two hundred owners, primarily banks, who are also users. Among these approximately two hundred owners are SEB, Nordea and Svenska Handelsbanken. Securities depositories within the Euroclear Group are active in seven European markets: Belgium, Holland, France, the United Kingdom, Ireland, Finland and Sweden.

In the short term, Euroclear's acquisition of VPC has only resulted in minor changes to Euroclear Sweden's operations, but in the long run the idea was for Euroclear Sweden to migrate to the Euroclear Group's planned shared IT platform, Single Platform. However, in 2010 the Euroclear Group decide to cancel the Single Platform project and Euroclear Sweden's planned migration has therefore also been

<sup>2</sup> In addition, Nasdaq OMX maintains a smaller electronic trading facility for certain interest-bearing instruments.



cancelled. Euroclear Sweden and Euroclear Finland will instead reorganise and harmonise parts of their business operations to achieve greater synergy effects.

## Brief history

VPC AB was founded in 1971 and the Swedish state owned fifty per cent of the company's shares. VPC's objective was to manage Swedish companies' shareholders' registers, implement instructions on share dividends and issue share certificates. Handling of securities transactions changed radically in 1989, when the handling of physical share certificates ceased in Sweden. As of 1989, VPC has responsibility for the account-based system for securities and for the settlement of securities transactions. Since 2003, gross settlement has taken place either on an ongoing basis or at specific times during the day.

In 2004, VPC acquired all shares in Finland's CSD, Suomen Arvopaperikeskus Oy (APK), from OMX Exchanges Oy<sup>3</sup>. APK thereby became a subsidiary of VPC.

On 31 October 2008, the Belgian Euroclear Group acquired all shares in NCSD Holding AB (NCSD Holding), which, in turn, owned 100 per cent of the shares in VPC. The Swedish securities depository thus received a new foreign owner. In February 2009, VPC's name was changed to Euroclear Sweden. The change in owners does not entail any change as regards the Swedish securities depository's legal status in Sweden. The company continues to be a Swedish-registered company subject to Swedish law and under the supervision of Finansinspektionen. In 2010, parts of the business were reorganised to achieve greater synergy effects between Euroclear Finland and Euroclear Sweden. In conjunction with this reorganisation, a large portion of the company's IT operations were outsourced.

## Operations

### *Services*

Euroclear Sweden's core activities consist of the following three areas:

#### 1. Registration

- Ownership of shares
- Issuing
- Outgoing payments

#### 2. Clearing operations

- Matching
- Clearing
- Settlement

#### 3. Account structuring

- VPC accounts

In accordance with its authorisation as a clearing organisation, Euroclear Sweden offers securities settlement. The company also provides services in support of registration, issuing and account structuring, in accordance with its authorisation as a CSD. Euroclear Sweden's account services include the distribution of payment instructions (for example for interest payments, tax reporting and tax collection), the safekeeping of securities and the provision of information and services in conjunction with corporate actions<sup>4</sup>.

<sup>3</sup> The company is today called Nasdaq OMX Nordic Ltd.

<sup>4</sup> Corporate actions.



■ Clearing and settlement in the VPC system is divided into a share market (AM) and a money market (PM). The AM mainly handles stock market instruments and interest-bearing instruments directed towards private individuals, such as bonds and premium bonds. The PM handles interest-bearing instruments for the institutional market, such as treasury bills, mortgage certificates, and mortgage and government bonds.

The settlement of securities instructions in central bank funds is provided via an integrated model in SEK and a semi-integrated ('Autonomous') model in EUR. Delivery versus Payment (DvP) is always applied in the settlement of instructions involving payment.

#### *Participants*

Euroclear Sweden accepts Swedish and foreign companies as participants. Participation requirements are stipulated in the Swedish Securities Market Act (SFS 2007:528) and in Euroclear Sweden's regulations. As of December 2010, 51 financial institutions were participating in the VPC system. The number of issuers of financial instruments affiliated in December 2010 was 1,221.

#### *Account structure*

The VPC system supports both direct and indirect (i.e. nominee-registered) securities holdings. In February 2011, the system included approximately 3.3 million securities accounts.

#### *Technical platform*

Euroclear Sweden provides settlement services via a settlement system developed in-house. Participants communicate with the system via NCSN Network and/or SWIFTNet. Some informational services are also available via Euroclear Sweden's website. Furthermore, the system works on an *on demand* basis, meaning that the system's processing capacity can be increased, as needed, by the supplier, who electronically determines the required capacity. The participants receive information in real time concerning their accounts and the status of their transactions via computer terminals and the system's interface. These are provided in both ISO 15022-based standard format and in Euroclear Sweden's proprietary format.

### **Clearing and settlement**

The settlement process starts with the registration, by participants, of instructions in the VPC system for matching, which are subsequently matched. Purchasing and selling instructions are matched in the PM. These instructions are matched to orders and deliveries in the AM. After instructions have been matched, no party may unilaterally recall them. Settlement day starts with a cover check of all matched instructions. This cover check first controls the delivery capacity of securities, followed by their payment capacity. Following this, the instructions are marked as ready for settlement. The instructions are subsequently settled, whereby securities and payment exchange owners in accordance with the DvP principle. The normal settlement cycle is T+3 for long-term interest-bearing securities, T+2 for short-term interest-bearing securities and T+3 for equity-related instruments.

The Riksbank has given Euroclear Sweden the task of administering special central bank accounts set aside for securities settlement in SEK. On behalf of the Riksbank, Euroclear Sweden can also approve intraday credit for securities settlement. The balances of these accounts form claims on the Riksbank.<sup>5</sup>

Euroclear Sweden uses a client account in TARGET2 for securities settlement denominated in EUR. Here, the settlement banks' individual balances are noted in separate settlement accounts for EUR in the VPC system. The settlement banks cooperate in cash settlement on behalf of the clearing participants. Their task is to handle the payment and receipt of funds in settlements.

The settlement banks grant clearing participants a limit for securities settlement for both SEK and EUR. This limit is equivalent to the payment capacity for the settlement process at the clearing participant's disposal. The clearing participant can also set limits in its payment commitments for underlying customers. The VPC system subsequently controls that each settlement bank has sufficient liquidity to cover the transactions of the settlement bank, the clearing participants and the underlying customers. If securities and cash are

<sup>5</sup> This procedure is described in the Riksbank Decision, *Follow up of the Annual Work Plan and Budget for 2002*, in appendix 3, covering systems development for special central bank accounts for securities settlement administered by VPC, May 2002, and in the *Terms and Conditions for RIX and Monetary Policy Instruments*.



available, these assets are blocked for settlement. The transaction is then marked as ready, meaning that payment is irretrievably made available to the recipient at the day's next settlement batch. The transaction will thus be carried out in this stage, even if one party should enter bankruptcy.

During this control process, different algorithms are used to increase the efficiency of the usage of securities and payment capacity, e.g. to control whether a group of instructions can be marked as ready simultaneously. For example, if a participant has registered purchasing and selling instructions for the same security and if the participant has delivery and payment capacity for the net position of these transactions, both will be marked as ready. All instructions marked as ready at the same time receive identical time indicators and identity numbers. However, one securities transaction and one payment transaction are registered in the relevant account for each separate instruction. The calculations for the optimisation of settlement begin as soon as the system opens in the morning and continue throughout the day so as to make use of the changes in the end clients' cash and securities holdings. This increases the efficiency of the usage of both securities and cash.

As soon as an instruction has been marked as ready, the cash or securities accumulated by a participant during the control process can be used to settle subsequent instructions. A current account is thus maintained for each participant's blocked net cash amount and net holdings of securities. The efficiency of the system is increased when a buyer is able to use securities blocked to the buyer to complete the control process for following instructions (and vice-versa for the seller). The final stage of the settlement cycle, actual settlement, takes place at three specific points in time for the AM and at four specific points in time for the PM. Following settlement, the cash becomes freely available and can be transferred from the VPC system to the end client's account.

Funds received through securities transactions can be returned to the settlement bank's ordinary central bank account at the end of each settlement round. Funds not blocked in the control process can be returned to the ordinary central bank account at any point during the day. All funds are returned to the settlement bank's ordinary central bank account following the day's final settlement time.

## Statistics

During 2010, Euroclear Sweden settled an average of approximately 1,200 PM transactions and 43,000 AM transactions per day, where one transaction results in two instructions in the settlement system. The daily gross value of these transactions was equivalent to approximately SEK 336.0 billion for PM instruments and SEK 27.3 billion for AM instruments.

## Current developments

The Euroclear Group decided in 2010 to cancel its IT Single Platform project, which envisioned gathering all national CSDs in the Group onto a single system. Euroclear Sweden's planned migration to Single Platform is therefore cancelled and Euroclear Sweden will thus maintain its current clearing and settlement platform. Euroclear Sweden and Euroclear Finland instead intend to jointly reorganise and harmonise parts of their business operations to achieve greater synergies between them. The existing selection of services will continue to be offered on each market, but the selection will also be developed and expanded in consultation with the participants.

In the autumn of 2009, obligatory central counterparty clearing (CCP) was introduced for the most frequently traded shares on NASDAQ OMX's exchanges in Stockholm, Copenhagen and Helsinki. Central counterparty clearing entailed a structural change in the processing of transactions and a transition was made from bilateral settlement to settlement via a central counterparty. The clearing organisation providing central counterparty services acts as an intermediary, i.e. as counterparty to both buyers and sellers. This means that, immediately after a trade is closed, the central counterparty enters as the buyer to the seller of the security, and as the seller to the buyer. Counterparty risk for trade members is thus reduced and centralised. One advantage of the introduction of a central counterparty is that transactions can be netted to one net transaction per day, security and clearing member. This in turn means that the majority of the transactions via the central counterparty can be reduced before they are sent to Euroclear Sweden for settlement.

An important measurement of the quality of the Swedish securities market has been the settlement ratio, since this has answered the question of what the probability is that a seller can receive its money in time or a buyer can receive its shares in time. Due to the structural alteration and the introduction of a new party in the settlement chain, the settlement ratio at Euroclear Sweden no longer provides an accurate depiction of the settlement quality on the Swedish market since only a portion of the trades go all the way to settlement. The settlement ratio still describes the quality of the transactions being settled, but to obtain a comprehensive overview of the quality on the market, new supplemental key ratios may need to be created.



NASDAQ OMX and Burgundy have selected the Dutch clearing organisation, European Multilateral Clearing Facility (EMCF), as their supplier of services for central counterparty clearing. During 2010 EMCF has intermediated as a central counterparty for 85 per cent of the total number of share transactions on NASDAQ OMX. It was possible to reduce 99 per cent of these transactions through netting before they were sent to Euroclear Sweden for settlement.

## ■ Evaluation

### Recommendation I: Legal framework

*Securities settlement systems, links between them or interoperable systems should have a well founded, clear and transparent legal basis for their operations in the relevant jurisdictions.*

#### Assessment

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

#### Considerations

All legislation and other rules regulating Euroclear Sweden's operations as a clearing organisation and CSD are public, as are Euroclear Sweden's own regulations. In the assessment of the Riksbank and Finansinspektionen, Swedish legislation supports the management of securities settlement, as do Euroclear Sweden's general terms and conditions. The general terms and conditions also specify what happens if a participant enters into bankruptcy. Euroclear Sweden's cross-border activities are limited, but it has been determined that the implementation of the finality directive should hinder conflicts of jurisdiction from arising.

#### Description

This recommendation considers the legal grounds in Sweden for securities settlement. In addition, it conducts a review of the regulations, provisions and agreements guiding Euroclear Sweden's settlement operations and, to a certain extent, Euroclear Sweden's account operations. All Swedish legislation, together with Euroclear Sweden's own regulations, provisions and agreements are public and are available online. Below, the Swedish legislation is examined first, followed by Euroclear Sweden's own regulations.

In addition to Swedish legislation, Euroclear Sweden's role as CSD is also subject to Euroclear Sweden's own regulations.

### Swedish legislation

#### *Clearing organisation*

Euroclear Sweden is under the supervision of Finansinspektionen and has been granted a licence by this body to conduct clearing operations in accordance with the Swedish Securities Market Act (VpML) (SFS 2007:528). As a clearing organisation, Euroclear Sweden is to operate its activities honestly, fairly and professionally, so as to maintain the confidence of the general public in the securities market. Euroclear Sweden is also to comply with the security requirements linked to such operations. These are the fundamental requirements for conducting clearing operations. Pursuant to these requirements, the organisation of operations, the structure of internal control and security, and the ability of executive management and major owners to conduct operations are evaluated. Furthermore, owners and management must undergo ownership and management assessments in accordance with Chapter 2 of Finansinspektionen's Regulations governing operations on trading venues (FFFS 2007:17). Clearing operations are also required to observe requirements on secure technical systems and security.

In its operations, Euroclear Sweden is to apply the principles of free access and neutrality. This implies that every party observing the requirements stipulated in the VpML and by Euroclear Sweden may participate in clearing, and that the company is obligated to apply its regulations to all clearing participants in a uniform manner.

Euroclear Sweden's settlement system has been approved and registered with the European Commission in accordance with the Swedish Act on Systems for the Settlement of Obligations on the Financial Market (SFS 1999:1309). This Act is based on Directive 1998/26/EC of the European Parliament and of the Council concerning payment and securities settlement systems ("the Settlement Finality Directive").

A settlement system shall have satisfactory joint rules and standardised arrangements to execute payment orders. The settlement system shall also include rules stating that Swedish law is applicable to the system.



■ According to the Swedish Act on Systems for the Settlement of Obligations on the Financial Market, transfer orders remain applicable to third parties even if a collective bankruptcy proceeding has been initiated as regards a participant in a notified settlement system. This assumes that such an order has been entered into the system before the announcement of the decision to initiate bankruptcy proceedings. An order may not be revoked by a participant in a notified settlement system or by a third party after the time stipulated in the system's regulations.

Participants in the system must be able to feel confident that no other participant or external party can hinder the settlement of a transfer order. The Swedish Act on Systems for the Settlement of Obligations on the Financial Market does not regulate the validity of the underlying transaction. Since the Act does not regulate underlying transactions, but only circumstances on the system level, it cannot be excluded that a participant or third party, such as a receiver, may have the right to recall or otherwise prevent a transaction from reaching the final recipient, even if revocation of a payment order is no longer possible under the system's rules. However, such a revocation may not lead to the prevention of a settlement in the system, although a subsequent reversal of the settlement may be implemented. It is, therefore, the settlement in the system that is to be protected, rather than the transaction as such.

The Swedish Financial Instruments Trading Act (1991:980) (LHF) stipulates that the settlement of obligations between two or more participants in a registered settlement system applies to bankrupts and their creditors, assuming that settlement has been made in accordance with the regulations of the system. These rules should be tested by the authority in each country with responsibility for testing and registering settlement systems. In Sweden, this authority is Finansinspektionen. This provision of the LHF also applies to the system operated by Euroclear Sweden.

#### *Central securities depository*

Finansinspektionen has also authorised Euroclear Sweden as a central securities depository in accordance with the Swedish Act on Accounting of Financial Instruments (LKF) (SFS 1998:1479). As such, Euroclear Sweden is to conduct its operations in a manner complying with stringent requirements for security and efficiency. Operations are also generally to be conducted in such a manner as to uphold public confidence in the account structuring and safeguard the interests of individuals. The security requirement means that the securities depository's technical systems, for example computer and communications systems, are to operate securely and that the securities depository is to undertake sufficient measures to prevent unauthorised access to computer systems and the implementation of any other unauthorised procedures. The security requirement also demands the securities depository organise operations in such a manner that no doubts arise, from a legal point of view, regarding the registration taking place. A securities depository's registration system and regulatory framework, including any accession agreements, must thus observe high standards. The efficiency requirement includes the rapid execution of registration among its demands.

#### *Other*

Another important function for Euroclear Sweden is the provision of services to facilitate pledging. Swedish legislation provides support for pledging and the settlement of securities. According to the Swedish Rights of Priority Act (FRL) (SFS 1970:979), the party to whom collateral is pledged has a specific right of priority, ahead of other creditors, to the pledged property in the event of a bankruptcy. The holder of collateral thus has the right, in the event of a bankruptcy, to sell the pledged property held as collateral, without delay, under the condition that such a sale is conducted in a commercially acceptable manner. Swedish legislation has been changed in conjunction with the implementation of the EU Directive on Financial Collateral Arrangements.<sup>6</sup>

Final settlement at Euroclear Sweden takes place via the simultaneous delivery of payments and securities. For the most part, the final settlement of cash is effected through RIX, the Riksbank's system for major payments.<sup>7</sup> RIX has been assessed in accordance with CPSS *Core Principles for Systemically Important Payment Systems* and is deemed to observe the principle of a well-founded legal basis.<sup>8</sup>

<sup>6</sup> The Directive has been implemented into Swedish legislation. In proposition 2004/05:30 on financial collateral, the government proposed that a number of legal amendments should be carried out as necessary to implement Directive 2002/47/EC of the European Parliament and of the Council of 6 June 2002, concerning financial collateral arrangements. One important objective of the directive was to increase security and predictability in the handling of collateral on the EU's financial markets. Furthermore, the Directive states that an agreement between the parties on pledged collateral should also be protected against third parties in the event that, for example, one of the parties should enter into bankruptcy. In accordance with the Directive, Swedish law already includes far-reaching protection for parties holding property as collateral. However, in order to make the Swedish regulations conform completely to the Directive, the government proposed a number of necessary amendments and adjustments, which were subsequently implemented into Swedish legislation.

<sup>7</sup> A minor portion of Euroclear Sweden's cash settlements are made through the Bank of Finland's system for major payments.





### *The regulatory framework of Euroclear Sweden*

Euroclear Sweden's *General Terms and Conditions for Account Operations and Clearing* have been published on Euroclear Sweden's website.<sup>8</sup> These specify the regulations governing each stage in the settlement process, from the registration of transactions to final settlement. The document includes a clear description of the various stages of securities settlement, as well as regulations covering the manner in which final settlement and delivery versus payment (DvP) take place in the system. The document also states the specific grounds upon which Euroclear Sweden may immediately exclude a participant from the system. Grounds for exclusion may include bankruptcy or the withdrawal of a license by Finansinspektionen.

Participants' measures, rights and obligations are regulated by an accession agreement between the participants and Euroclear Sweden. This documentation clearly specifies the risks linked with settlement.

As specified in Recommendation 10, the Riksbank and Euroclear Sweden have specific rights and obligations with regard to the central bank accounts administered by Euroclear Sweden. These are described in the agreement between the Riksbank and Euroclear Sweden, as well as in *The Riksbank's Rules and Regulations for RIX and Monetary Policy Instruments*. The document describes the allocation of responsibilities between the Riksbank and Euroclear Sweden in relation to RIX participants with central bank accounts administered by Euroclear Sweden.

#### *Cross-border activities*

In Euroclear Sweden's general terms and conditions, no distinction is made between Swedish and foreign participants, apart from the obligation for foreign institutions, upon request, to submit a legal opinion or the equivalent on regulations in their home country that may be of significance for their participation in Euroclear Sweden.

Euroclear Sweden has a limited number of foreign participants from EU and EES countries and handles a lesser number of cross-border transactions via its links. The implementation of the Settlement Finality Directive in Sweden implies that all transactions in Euroclear Sweden's system are covered by Swedish legislation. Consequently, no cases of conflicting legislation should arise for the settlement services provided to participants from EU or EES countries, while no participants from countries outside the EU/EES area are present. Euroclear Sweden has cross-border links, either directly with other central security depositories or indirectly via custodial banks, to facilitate the transfer of certain foreign securities and all Swedish shares traded on NASDAQ OMX Helsinki. The implementation of the Settlement Finality Directive should also help prevent conflicting legislation in this area.

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<sup>8</sup> See [www.riksbank.com](http://www.riksbank.com).

<sup>9</sup> [www.euroclear.com](http://www.euroclear.com)

## ■ Recommendation 2: Trade confirmation and settlement matching

*Confirmation of trades between direct market participants should occur as soon as possible after trade execution, but no later than trade date (T+0). Where confirmation of trades by indirect market participants (such as institutional investors) is required, it should occur as soon as possible after trade execution, preferably on T+0, but no later than T+1. Settlement instructions should be matched as soon as possible and, for settlement cycles that extend beyond T+0, this should occur no later than the day before the specified settlement date.*

### Assessment

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

### Considerations

The majority of equity transactions from the stock markets and almost all interest rate transactions are confirmed on T+0. A small portion of equity transactions are confirmed on T+1. All bilateral instructions registered in the VPC system are matched before settlement. For interest rate transactions, matching in the VPC system implies a confirmation. The recommendation on trade confirmation between direct participants is thus observed for debt securities and equities. A confirmation is generally not required on the Swedish market, but if it is specified in an agreement between two participants, a confirmation is provided within a few hours of the closing of the transaction.

### Description

As trading on the stock market is electronic, direct participants are able to see their matched transactions online. This functions as a confirmation. If the counterparties in a transaction register different information or fail to agree on the terms of the transaction, the stock market protocol or an equivalent protocol from another market will apply. Certain equity transactions are cleared via a central counterparty (CCP), after which the resulting net amount is settled in the VPC system. There are incentives to ensure that direct participants choose to register their transactions with Euroclear Sweden by 12:00 T+1, in accordance with the *regulations of the Swedish Securities Dealers Association*. In the event registration does not take place by 12:00 T+1, a higher fee is charged for these transactions.

On the fixed income market, which is an OTC market, transactions are to be “registered in the VPC system within one hour of closing”, according to the regulations of the Swedish Securities Dealers Association. The matching of transactions takes place as soon as both parties have registered their respective instructions and the specified agreed matching criteria correspond.

According to Chapter 17, section 2, second paragraph of Finansinspektionen’s regulations regarding investment services and activities (FFFS 2007:16), a contract note is usually sent to the client as soon as possible and no later than the first business day following execution.<sup>10</sup> The contract note is sent to the indirect participant and, ultimately, to the end client. The agreement between broker and client specifies whether a confirmation is required for transactions between direct and indirect participants. Such a confirmation is bilateral in nature. No central trade confirmations are made between the direct and indirect participants. In cases in which confirmation is required, for example when foreign clients are involved, the direct participant issues a trade confirmation. Such confirmations are normally sent to the indirect participant within a few hours of the transaction.

<sup>10</sup> Chapter 17, section 2, second paragraph of FFFS 2007:16 specifies the point in time at which an investment firm that has executed an order on behalf of a client is to provide information on the execution of the order, and the point in time at which the contract note is to be sent to that client. Note that the information requirement differs depending on whether the client is a retail client, and whether the order refers to discretionary portfolio management. There are exceptions to this general rule, as this same provision makes clear.

## ■ Recommendation 3: Settlement cycles

*Rolling settlement should be adopted in all securities markets. Final settlement should occur no later than T+3. The benefits and costs of EU-wide settlement cycles shorter than T+3 should be evaluated. The operating hours and days of CSDs should be open at least during the operating time of the relevant payment system (at least during TARGET2 operating times for transactions denominated in euro).*

### Assessment

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

### Considerations

The settlement cycle in Sweden is T+3 or less, and 98–99 per cent of transactions are settled by the specified date. Euroclear Sweden has an incentive to ensure that settlement is executed on time and thus cooperates with participants when problems arise. The Riksbank and Finansinspektionen regularly monitor the settlement ratio on the Swedish market. The question of a shorter settlement cycle is being addressed in other joint European forums such as the working group *Harmonisation of Settlement Cycles*, of which Euroclear Sweden is a member. Euroclear Sweden's participants reported in the interviews conducted by Finansinspektionen and the Riksbank that they are satisfied with the current settlement cycle. T+3 is the present European standard and the participants do not see any reason to change unless the change will be implemented at the same time throughout all of Europe.

### Description

The settlement cycle is normally T+3 for the AM and T+2 for the PM. Euroclear Sweden's *General Terms and Conditions* clearly state that settlement must be executed on time and that action must be taken if settlement is delayed.<sup>11</sup> They also specify the liquid funds that participants and, above all, settlement banks must place at the system's disposal at various points in time during the day. Euroclear Sweden monitors instructions that have not been settled on the appointed settlement day and publishes information about them every month on its website for participants. This information may refer to securities that have not been delivered or to the names of participants failing to discharge their obligations on time. Euroclear Sweden has also imposed all charges on the supplier, which implies that the system cost is paid by any delayed suppliers.

For settlement in SEK, the system is open on all Swedish banking days, while, for settlement in EUR, the system is open on all days upon which TARGET2 is open. The settlement process is underway between 7:15 and 17:00 CET. In addition, Euroclear Sweden can move forward (back) the time of settlement as needed should problems arise in the VPC system.

After implementing central counterparty clearing on the Swedish market in the autumn of 2009, it has been possible to see a change in the settlement ratio at Euroclear Sweden. In 2010, the average settlement ratio for the AM was 98.39 per cent for the number of instructions and 94.91 per cent for value. This can be compared with the average settlement ratio in 2009, which was 98.72 per cent for number of instructions and 98.44 per cent for value. Due to the structural alteration and the introduction of a new party in the settlement chain, the settlement ratio at Euroclear Sweden alone no longer provides an accurate depiction of the settlement quality on the Swedish market since only a portion of the trades go all the way to settlement. The settlement ratio still describes the quality of the transactions being settled, but to obtain a comprehensive overview of the quality on the market, new supplemental key ratios may need to be created.

In 2010, the settlement ratio for the PM was 99.72 per cent for the number of instructions and 99.84 per cent for value. The equivalent figure for 2009 was 99.81 per cent for the number of instructions and 99.96 per cent for value. These statistics include transactions that are not settled in the ordinary settlement cycle but which have been newly registered for settlement in real time on the same day.

<sup>11</sup> Euroclear Sweden's General Terms and Conditions, Special Resolution CS 5, Settlement Incentives, June 2005.



■ However, there are certain cases in which Euroclear Sweden's rules entail the limitation of a clearing participant's obligation to settle on time on behalf of a client. This would be the case, for example, if a clearing participant was reasonably unable to borrow, on the market, the securities needed to fulfil a delivery.<sup>12</sup>

The length of the settlement cycle is under discussion in the working group *Harmonisation of Settlement Cycles*, for example, where a change from T+3 to T+2 has been considered reasonable. Euroclear Sweden has also participated in the initiatives made by the European Central Securities Depository Association (ECSDA) to harmonise Europe's settlement cycles.<sup>13</sup>

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<sup>12</sup> Euroclear Sweden's General Terms and Conditions, C.3.1.

<sup>13</sup> European Central Securities Depositories Association's First annual status report relating to its standards for the removal of Giovanni barriers 4 and 7.

## ■ Recommendation 4: Central counterparties (CCPs)

*The benefits and costs of establishing a CCP should be evaluated. Where a CCP mechanism or guarantee arrangement has been introduced, it should be assessed against the ESCB-CESR Recommendations for CCPs or against the checklist for guarantee arrangements respectively.*

### Assessment

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

### Considerations

Since the autumn of 2009, the European Multilateral Clearing Facility (EMCF) has been responsible for the obligatory central counterparty clearing service introduced for certain equity transactions on the NASDAQ OMX exchanges in Stockholm, Copenhagen and Helsinki. Several actors intend to offer central counterparty services on the Swedish market in 2011, a development that Euroclear Sweden and Euroclear's participants regard positively.

### Description

In Europe, there have long been central counterparties in the clearing of not only derivatives but also equities and debt securities. Until the autumn of 2009, there only existed one central counterparty for the clearing of derivatives in Sweden, NASDAQ OMX Derivatives Markets, which is a secondary name of NASDAQ OMX. During the autumn of 2010, NASDAQ OMX also introduced central counterparty settlement services for the repo market. The Riksbank and Finansinspektionen are evaluating NASDAQ OMX DM in accordance with ESCB-CESR recommendations for CCPs.

In 2008, several Multilateral Trading Facilities (MTFs) for equities were introduced in Europe. In October 2009, NASDAQ OMX and Burgundy introduced obligatory central counterparty clearing for certain equity transactions.

For the clearing of equities, NASDAQ OMX and Burgundy chose the Dutch central counterparty, EMCF, which is also central counterparty in the clearing of the shares traded on, for example, Chi-X and BATS Europe. As EMCF is a Dutch clearing organisation, the Dutch central bank, De Nederlandsche Bank (DNB), and the Dutch supervisory authority, Netherlands Authority for the Financial Markets (AFM), are the coordinating authorities for supervisory issues related to EMCF. Finansinspektionen and the Riksbank have established a cooperation with the Dutch supervisory authorities and entered into a Memorandum of Understanding (MoU) regarding supervision and oversight of the Group with all supervisory authorities and central banks where EMCF is operational. Both NASDAQ OMX and Burgundy have notified that they intend to add more central counterparties in 2011.

## ■ Recommendation 5: Securities lending

*Securities lending and borrowing (or repurchase agreements and other economically equivalent transactions) should be encouraged as a method for avoiding settlement failures and expediting the settlement of securities. Barriers that inhibit the practice of lending securities for this purpose should be removed. The arrangements for securities lending should be sound, safe and efficient.*

### Assessment

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

### Considerations

The provisions on securities loans can be found in both the LHF and in FFFS 2007:16. In addition, the Swedish Securities Dealers Association has produced *General Terms and Conditions* and *Framework for Securities Lending*. The settlement ratios of 99.72 per cent for number of instructions and 99.84 per cent for value for the PM, and 98.39 per cent for number of instructions and 94.91 per cent for value for the AM indicate that settlement functions effectively for both the PM and AM.

### Description

There is a market for the lending of securities and a market for repurchase agreements regarding debt securities in Sweden. One function of these markets is to facilitate settlement. The markets in both segments are dominated by a small number of participants, but the exact concentration and size of these markets is unclear, as the large OTC element means that the market is not integrated.

The lending of securities is regulated by Chapter 3 of the LHF. These provisions cover all financial instruments, as defined in Chapter 1, section 4, first paragraph, first point of the VpML. Chapter 10, sections 10–11 of FFFS 2007:16 specifies the conditions under which an investment firm may use clients' financial instruments. The manner in which this is to be recorded is specified by Finansinspektionen's regulations and general guidelines on annual reporting by credit institutions and investment firms (FFFS 2008:25). The tax treatment of financial instruments is stated in Chapter 44, Sections 9 and 29 of the Swedish Income Tax Act (SFS 1999:1229).

For tax purposes, repurchase agreements are considered to be formed by a divestment and a later repurchase, and are thus taxable, while any capital gains from a transaction with borrowed equities do not become taxable until the share loan is repaid.

As the lending of securities takes place on an OTC basis in Sweden, transactions for the lending of securities are regulated in more detail in the relevant agreement. The Swedish Securities Dealers Association has produced *Terms and Conditions and Framework for Securities Lending*, in relation to both clients and to equal parties<sup>14</sup>.

<sup>14</sup> According to Chapter 8, section 15 of the VpML, a securities institution is to divide its clients into professional and non-professional clients and may treat certain professional clients as equal counterparties. Chapter 8, sections 19 and 20 of the VpML specify which clients may be treated as equal counterparties.



## ■ Recommendation 6: Central securities depositories (CSDs)

*Securities should be immobilised or dematerialised and transferred by book entry in the CSD to the greatest possible extent. To safeguard the integrity of securities issues and the interests of investors, the CSD should ensure that the issue, holding and transfer of securities are conducted in an adequate and proper manner.*

### Assessment

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

### Considerations

Euroclear Sweden is presently the only CSD in Sweden. According to the LKF, the registration of a VPC account with a CSD implies ownership.

Both Swedish and foreign securities handled in the VPC system are dematerialised. A small portion of the foreign securities are immobilised, which means that they are represented by a global certificate that is not kept by Euroclear Sweden. These securities are, however, transferable via the VPC system.

### Description

All Swedish securities registered and settled in the VPC system are dematerialised, meaning that share certificates, debt instruments or other equivalent documents may not be issued. Account entry, and consequently the transfer of ownership, takes place at the time of settlement. Foreign securities handled in the VPC system are also normally dematerialised. A very small proportion of the securities held in accounts in the VPC system are immobilised and have a global certificate held elsewhere. The accounting systems for securities feature extensive logging and integrity checks to ensure correctness and traceability in the accounting process. The risks that handling involves are overwhelmingly operational in nature and thus are carefully monitored. The settlement process has been constructed in such a way that Euroclear Sweden does not actively participate in securities transactions and thus is not exposed to credit or liquidity risks either.

## ■ Recommendation 7: Delivery versus Payment (DvP)

*Principal risk should be eliminated by linking securities transfers to fund transfers in a way that achieves delivery versus payment.*

### Assessment

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

### Considerations

All instructions sent to the VPC system are monitored by Euroclear Sweden, regardless whether they are connected to a Delivery versus Payment (DvP) transaction or a Free of Payment (FoP) transaction.

### Description

All instructions connected with a transaction involving payment in the VPC system are settled in gross through DvP. Delivery, the debiting of the seller's securities account and the crediting of the buyer's account take place simultaneously. Both delivery and payment are irrevocable once the accounts have been debited and credited. These procedures result in a legally secure DvP that minimises the investment risk for Euroclear Sweden's participants. Euroclear Sweden has no control over the procedures applied by participants to their clients, and the system itself does not provide DvP on that level. Rules and procedures for DvP can be found in Euroclear Sweden's own regulations.

FoP transactions are used in a number of different ways, e.g. for an institution's internal securities trading or transactions involving pledging. They can also be used when the securities channel is settled in the system for securities settlement, and the liquidity channel is settled in another manner. Such a transaction does not take place on a DvP basis in the settlement system.



## ■ Recommendation 8: Timing of settlement finality

*Intraday settlement finality should be provided through real-time and/or multiple batch processing in order to reduce risks and allow effective settlement across systems.*

### Assessment

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

### Considerations

At present, final settlement takes place at three established times per day for transactions in the AM, and at four established times per day for transactions in the PM. Together with clear terms and conditions and the gross settlement in real time function, this guarantees that, when necessary, participants can receive the balance from settlement and re-use it during the day.

### Description

Euroclear Sweden's regulations clearly define the term *final settlement*, together with the timeframes for irrevocability and the finality of transactions. After instructions have been matched for settlement, no party may unilaterally recall them. The next stage in the handling of the transaction is the control process. In this process, the system controls whether the liquid funds and securities in the participants' accounts are sufficient to cover the transactions. After the instructions have been controlled, the payment and the securities needed to settle the instructions are blocked. The instructions are then marked as ready. This stage signifies that the transactions will be settled at the next settlement time, even if one of the parties should enter into bankruptcy. Securities and liquid funds from transactions marked as ready can be used to mark additional transactions as ready and provides a functionality that makes the settlement process more efficient. The transactions are final when settlement takes place. The settlement banks may transfer the balance from settlement to their ordinary central bank accounts in connection with each of the specified settlement points. With several settlement batches per day for both the AM and the PM, in addition to technical netting functions, the system allows securities and funds to be used several times during the day.

The participants can also select a procedure for gross settlement in real time if immediate settlement is required. However, the ordinary settlement batches are usually used. Current settlement is technically possible in the VPC system. This possibility was offered to participants during the construction of the system. However, the participants considered the transfer to a system with current settlement to be too expensive. Euroclear Sweden maintains an ongoing dialogue about increasing the number of settlement batches or switching to current settlement, but the participants are currently satisfied with the present time intervals for final settlement. If the participants require settlement in real time, they can use the gross settlement in real time function.

Euroclear Sweden does not receive or execute preliminary transfers of securities from/to other CSDs, even if these types of transfers are supported by the system.



## ■ Recommendation 9: CSD risk controls to address participants' failures to settle

*CSDs that extend intraday credit to participants, including CSDs that operate net settlement systems, should institute risk controls that, as a minimum, ensure timely settlement in the event that the participant with the largest payment obligation is unable to settle. The most reliable set of controls is a combination of collateral requirements and limits.*

### Assessment

As Euroclear Sweden does not provide credit in connection with settlement, Recommendation 9 is not applicable.

### Description

Euroclear Sweden does not act as a lender and does not grant credit to its participants in any manner whatsoever. Euroclear Sweden's settlement system is designed so that all implicit credit granting is avoided through the requirement that the securities and the payment required for each individual transaction are blocked before the transaction is marked as ready. Following the control and blocking of securities and payment, the settlement of the transaction can be guaranteed, even if one of the counterparties should enter into bankruptcy. Euroclear Sweden does not permit overdrafts for either securities or cash.

The participants still face a counterparty risk in the form of a replacement cost risk (although not credit risk), as the possibility exists that their transactions will not be marked as ready if their counterparty fails to fulfil its commitments. This risk is bilateral and does not entail an interruption of the settlement process.

## Recommendation 10: Cash settlement assets

*Assets used to settle payment obligations arising from securities transactions should carry little or no credit or liquidity risk. If central bank money is not used, steps must be taken to protect the participants in the system from potential losses and liquidity pressures arising from the failure of the cash settlement agent whose assets are used for that purpose.*

### Assessment

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

### Considerations

The cash settlement of transactions between different settlement banks in the VPC system takes place with central bank money. Settlement in SEK takes place in special Riksbank accounts in the RIX system, administered by Euroclear Sweden<sup>15</sup>, while settlement in EUR takes place via the TARGET2 system and the Bank of Finland. Those participants not participating in the RIX or TARGET 2 systems engage a settlement bank to administer payments. Settlement between participants that are not settlement banks takes place via accounts with those commercial banks functioning as settlement banks.<sup>16</sup>

### Comment

Nine commercial banks currently act as settlement banks for payments in SEK in the VPC system. Consequently, exposures to the settlement banks are concentrated and the contagion risk between the settlement banks is high. In order to become a settlement bank in SEK, an institution must be a participant in the Riksbank's system for major payments. This limits institutions' possibilities of becoming settlement banks.

### Description

The settlement banks have special accounts for central bank liquidity in SEK. A majority of the settlement banks also have credit accounts at the Riksbank. Even if these accounts are administered by Euroclear Sweden, the Riksbank carries full responsibility for them. As regards the cash settlement of securities transactions, the settlement banks have neither financial nor operative exposure towards the settlement system.

One of the conditions that the Riksbank set before allowing these accounts to be used by the settlement system is that the settlement system is to provide the Riksbank with information in real time regarding the balances of these accounts. In the event that the system for securities settlement is impacted by operational disturbances, it is possible for the Riksbank to reconstruct the accounts in which credit transactions or other types of definitive transactions have taken place.

As soon as settlement has been executed, all balances can be returned to RIX. Collateral can be pledged for credit in conjunction with settlement with the aid of so-called collateral accounts and those credit accounts administered by Euroclear Sweden which are linked to the accounts for central bank liquidity. This year the RIX system observes all of the requirements set out in Core Principles for Systemically Important Payment Systems (CPSIPS)<sup>17</sup>.

The Riksbank does not offer settlement in EUR. Euroclear Sweden's solution to this is to participate in TARGET2 via the Bank of Finland. In order to settle payments in EUR, the settlement banks transfer funds to Euroclear Sweden's account with the Bank of Finland. Euroclear Sweden's legal experts have evaluated the support provided by Finnish legislation and included in Euroclear Sweden's agreement with the Bank of Finland, and have established that there exists support for the separation of client funds into client accounts, so that the settlement banks are not exposed to any credit risk due to Euroclear Sweden. Each settlement bank's deposits in this account are reflected in the liquidity settlement accounts in the VPC system. Settlement takes place via this liquidity settlement account and the balance is subsequently transferred from Euroclear Sweden's account with the Bank of Finland to each settlement bank's central bank

<sup>15</sup> Euroclear Sweden's administration of these accounts and both parties' rights and obligations are described in the agreement between the Riksbank and Euroclear Sweden. See [www.riksbank.com](http://www.riksbank.com).

<sup>16</sup> There are twelve settlement banks in the VPC system: nine commercial banks, EMCF, the Riksbank and the Swedish National Debt Office.

<sup>17</sup> The assessment of RIX is available at [www.riksbank.com](http://www.riksbank.com).



■ account. Largely the same routines are thus applied in Sweden and in Finland, but the legal statuses of the accounts in the VPC system differ.

All commercial banks participating in the VPC system and the Riksbank's system for major payments may become settlement banks for payments in SEK. At present, nine commercial banks act as settlement banks for payments in SEK and seven as settlement banks for payments in EUR. Exposure towards these banks is thus great and involves a concentration risk. However, the settlement banks are supervised by Finansinspektionen or an equivalent supervisory authority in the bank's home country. After a bank has been approved as a settlement bank, Euroclear Sweden continues to monitor its observation of the requirements. The balance of a settlement in either SEK or EUR can be reused in the VPC system immediately after a transaction has been checked and marked as ready. Participants engaging settlement banks must reach agreement with their settlement bank regarding the point in time at which their cash is to be made available. Settlement banks in the VPC system must wait until settlement has been executed at certain settlement times before their cash can be used outside the system. A transition to more settlement batches would reduce the length of time the settlement banks would need to wait for this cash. However, the settlement banks have been satisfied with present time intervals for settlement batches.

## ■ Recommendation II: Operational Risk

*Sources of operational risk arising in the clearing and settlement process should be identified, monitored and regularly assessed. This risk should be minimised through the development of appropriate systems and effective controls and procedures. Systems and related functions should (i) be reliable and secure, (ii) be based on sound technical solutions, (iii) be developed and maintained in accordance with proven procedures, (iv) have adequate, scalable capacity, (v) have appropriate business continuity and disaster recovery plans that allow for the timely recovery of operations, and (vi) be subject to frequent and independent audits.*

### Assessment

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

### Considerations

Euroclear Sweden has routines for the identification, monitoring and management of operational risk. These involve emergency plans and appropriate back-up systems and Euroclear Sweden has an independent function to follow up operational risk. This function reports directly to the Managing Director and the risk division in Euroclear's parent company, providing both with regular information on the system's operational status. Euroclear Sweden's emergency plans are tested regularly and some participants take part in these tests. Euroclear Sweden has considered situations in which data systems are not accessible to Euroclear Sweden and has informed the participants of how such situations are to be handled.

The technical reliability of the VPC system is high and the participants are very satisfied with this. In 2010, the level of access of the VPC system was 99.99 per cent. However, the system is old and up until recently the plan was to switch out the VPC system and migrate to a shared IT platform, Single Platform. As a result of the work on the migration to Single Platform, development of the VPC system has ceased. The participants have mentioned this during their interviews with Finansinspektionen and the Riksbank and also expressed a desire to receive clearer information regarding the future development of the VPC system.

The participants furthermore expressed a need in the interviews for clearer communication from Euroclear Sweden about emergency plans and crisis management procedures. In order to enable the participants to maintain a high level of crisis readiness, Finansinspektionen and the Riksbank believe that Euroclear Sweden should review how it communicates and keeps participants updated on these issues.

### Description

Each year a risk assessment is conducted of all business areas within Euroclear Sweden. Another important part of the work on operational risks is that Euroclear Sweden follows up on operational incidents so as to identify and remedy underlying risks.

Euroclear Sweden has a special risk management function that uses a clearly defined process for the identification and management of operational risks in business processes, the technical infrastructure, the IT system, and Euroclear Sweden's projects.

The risk management function's tasks include:

- formulating policies, guidelines and instructions,
- assisting businesses to conduct risk analyses,
- monitoring the development of international standards,
- being responsible for insurance,
- investigating and reporting incidents and risks to the management team,
- working with security awareness,
- coordinating emergency plans and tests, and



- coordinating Euroclear Sweden's crisis management functions.

The risk management function forms an independent staff function that reports directly to Euroclear Sweden's Managing Director and, now, also to the risk division of Euroclear's parent company. Each year, a risk inventory is conducted in which each business area, aided by the risk management function, identifies and ranks its own operational risks. These risks are compiled and presented to the management team together with proposals for the manner in which risks may be reduced. The risk management function also checks Euroclear Sweden's procedures for the management of operational risks, and an external audit is conducted every year.

Since the merger with Euroclear, this risk work has been successively harmonised with the work of the risk division of the Euroclear Group. Among other implications, this has meant that Euroclear Sweden has implemented Euroclear Group's policies on risk and adjusted its risk management methods and reporting to the Euroclear Group's standards. This harmonisation project is now more or less completed.

Euroclear Sweden's technical system represents a large share of the identified operational risks. These risks are included in the process described above, but are also managed in a different manner. Special risks assessments are conducted that take into consideration possible changes to the technical system. Audits of the IT system and its security are conducted annually. One of these audits is conducted by external auditors. The internal audit department also conducts the audit of the IT system. Any and all recommendations arising from these audits are reported directly to the management team and board of directors. The management team also regularly monitors the key indicators of operational reliability, such as level of access and number of incidents. Euroclear Sweden uses the ISO 27002 standard as a frame of reference and considers that it observes the standards relevant for its operations. External expertise has been utilised to assess the strength of Euroclear Sweden's information security. Euroclear Sweden is deemed to have a high standard of information security and observes the requirements of ISO 27002 and other established *best practices* for information management. Despite this, Euroclear Sweden is not certified in accordance with ISO 27002. However, internationally, few CSDs are certified in accordance with ISO 27002.

Euroclear Sweden has prepared emergency plans for managing identified operational risks. These plans rectify both local disturbances and large-scale catastrophes and entail the utilisation of a second operating site with an independent infrastructure, located a suitable distance from Euroclear Sweden's main operating site, as well as a third site for back-up management. Both the emergency plans and the alternative sites are tested regularly. A fail-over test is conducted at least twice per year during which the operating site is changed, and the plans are updated as needed or at least once per year. The tests also include certain participants. According to the plan, it should be possible to restore operations within two hours in the event of a catastrophe and after one hour in the event of simpler interruptions. When the operating site is changed, the participants' own connections are not affected and they do not notice whether an operational disturbance has only resulted in an interruption or a change in the operating site. Euroclear Sweden maintains a list of the infrastructure suppliers it engages and monitors these suppliers and its dependence upon them.

Furthermore, Euroclear Sweden has investigated how it should manage a situation in which its data system becomes inaccessible. Euroclear Sweden also requires participants to maintain a register of their transactions so that they can be recreated in the event of a failure of the VPC system. Operations connected to these requirements are followed up at Euroclear Sweden's annual bilateral meetings with all of its participants. Euroclear Sweden also has a manual process for emptying the liquidity settlement accounts that Euroclear Sweden administers for the Riksbank. This process is tested regularly, together with the Riksbank and a number of participants.

Euroclear Sweden helps its participants choose a communication solution with sufficient capacity and monitors traffic to ascertain whether an upgrade is required. Euroclear Sweden provides reserve workplaces for its participants in its premises, as well as alternative possibilities for the registration of transactions, such as the possibility to bring a USB flash drive containing transaction data to Euroclear Sweden.

Copies of all data are sent, on an ongoing basis, to two separate operating sites as soon as they are received or generated by the VPC system. Message integrity, meaning that no party can change a transaction after it has been entered into the system, is controlled both when the transactions are handled and in the database. There are also mechanisms for the registration of transactions at several points in the transaction chain. The large number of automatic reconciliations in the system also safeguards completeness and integrity.

The most recent internal audit of IT operations was conducted in the spring of 2009, with the aid of expertise from Euroclear's central operation. The most recent annual assessment of Euroclear Sweden's operational risks was also conducted in the spring of 2009, with a follow-up during the autumn.



■ Euroclear Sweden measures level of access as the proportion of time, expressed as a percentage, in which the system is available to the majority of users during the system's opening hours, 7am–9pm. During 2009, the level of access was 99.96 percent. Capacity and transaction volumes are monitored on both a daily and a weekly basis. In order to assess the maximum capacity, benchmark tests are conducted in a test environment. Furthermore, Euroclear Sweden has a licensing model, prepared together with its data supplier, which makes it possible for Euroclear Sweden to increase its computer capacity in real time through the use of license keys. This function has been used on a couple of occasions.

Euroclear Sweden outsourced its IT function to an external service supplier as of 1 September 2010. The majority of the employed IT personnel have therefore gone over to the selected IT supplier. A small IT organisation is maintained at Euroclear Sweden to act as the orderer of the IT services and to monitor the outsourced services and the cooperation with the IT supplier. During 2011, IT infrastructure, technical services and system administration will continue to be the responsibility of Euroclear Sweden and be located in Euroclear Sweden's premises, but they will be managed by the service supplier (resource-based outsourcing). With regard to system development and maintenance, a transition is currently underway toward a more service-based arrangement, i.e. the IT supplier will carry full responsibility for the services via a service agreement. This service-based approach will be implemented in full in March 2011.

The majority of the personnel that will go over to the IT supplier will continue to sit in Euroclear Sweden's premises in order to ensure a fast response time and maximum operational stability.

## ■ Recommendation 12: Protection of customers' securities

*Entities holding securities in custody should employ accounting practices and safekeeping procedures that fully protect customers' securities. It is essential that customers' securities be protected against the claims of the creditors of all entities involved in the custody chain.*

### Assessment

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

### Considerations

Assessment of this recommendation is based on the legislation and regulatory framework existing for the protection of clients' securities and not on the actual routines of the individual institutions. Swedish legislation, like Finansinspektionen's regulations, supports the differentiation of clients' securities. Units storing securities fall under the supervision of Finansinspektionen or the equivalent foreign authority.

### Description

Chapter 3, Section 2, second paragraph of the LKF specifies the legal entities to which a CSD may grant the right, as an account operator, to undertake registration measures on behalf of a third party. Among other legal entities, these include:

- the Riksbank and other central banks,
- Swedish and foreign clearing organisations,
- CSDs and foreign companies permitted to conduct operations comparable to central account keeping in their country of domicile, and
- securities institutions and foreign companies permitted to conduct securities trading in their country of domicile.

The foreign companies are required to be subject to the adequate supervision of an authority or other competent body.

Pursuant to Chapter 8, Section 34 of the VpML, a securities institution is to hold a client's financial instruments separately from the institution's assets, unless the client explicitly approves another arrangement. Chapter 10, Section 2 of FFFS 2007:16 specifies the measures a securities institution is to adopt to protect a client's financial instruments and funds. The legislation thus supports the differentiation of clients' assets, which are thereby also protected in the event that the asset manager should enter into bankruptcy. All clients also have the possibility of registering their securities, either with an asset nominee or directly in a securities account with Euroclear Sweden. In the latter case, registration takes place via an account operator.

If an investor loses the financial instruments or funds it holds with a securities institution as a result of an act of fraud by the asset manager and the asset manager fails to hold these assets separately or enters into bankruptcy, the Swedish Investor Protection Act (SFS 1999:158) protects each client's assets up to SEK 250,000.





## ■ Recommendation 13: Governance

*Governance arrangements for CSDs should be designed to fulfil public interest requirements and to promote the objectives of owners and relevant market participants.*

### Assessment

The Riksbank and Finansinspektionen deem that Recommendation 13 is broadly observed.

### Considerations

Systems for internal governance and control are to be clearly defined, comprehensible and transparent. Euroclear Sweden is a subsidiary of Euroclear SA/NV, for which the board of directors is responsible for the Group's internal governance and control. Euroclear Sweden discloses information about the board of directors and the management team in Euroclear Group's annual reports, and the names of Euroclear Sweden's members of the board of directors are presented on the website. It is difficult to obtain an overview of Euroclear Sweden's own governance and this information should therefore be presented more clearly and, in some cases, supplemented.

Euroclear Sweden informs its participants about important decisions, such as plans affecting the system and information about projects, via the marketing committee, member meetings and e-mail. Modifications to the rules and procedures take into consideration the viewpoints of the participant groups. Euroclear Sweden welcomes suggestions from the participants and handles them openly.

However, Euroclear Sweden's participants have reported that it has become more difficult to raise their opinions and viewpoints on important issues, and that Euroclear Sweden takes longer than previously to provide feedback. Euroclear Sweden plays a central role on the Swedish market and provides a function that is critical for the secure and efficient operation of the market. It is therefore of the utmost importance that Euroclear Sweden and the actors on the market are able to work together and that the system's participants not only receive information about important decisions but also are given the opportunity to influence these decisions. Finansinspektionen and the Riksbank therefore believe that Euroclear Sweden should investigate what measures can be taken to improve the communication with the participants in these areas.

Since Euroclear Sweden's governance is difficult to interpret and its communication with the market is not functioning satisfactorily, Finansinspektionen and the Riksbank have made the assessment in the 2010 evaluation that the recommendation is only broadly observed.

### Description

The Euroclear group is a 'user-owned infrastructure company', which is common among CSDs. The Euroclear Group has approximately two hundred owners, primarily banks, who are also users. Among these approximately two hundred owners are SEB, Nordea and Svenska Handelsbanken. SEB, which owns approximately three per cent, is one of the largest owners. The Euroclear Group's individual owners thus each own fairly small portions.

According to the Group's legal structure, Euroclear Sweden AB is a wholly-owned subsidiary of Euroclear SA/NV. At the top of the Group structure is Euroclear Plc. The Euroclear Group includes Euroclear Bank, based in Brussels, as well as Euroclear Belgium, Euroclear Finland, Euroclear France, Euroclear Netherlands, Euroclear Sweden and Euroclear UK & Ireland. Information about the Group and Euroclear SA/NV is found on the parent company's website. Euroclear SA/NV's management team consists of a five-person Management Committee and a 22-person extended Group Management Team, to which Euroclear Sweden's managing director belongs since mid-2010.

Central principles in the decision-making process within the Euroclear Group are coordination and autonomous decision-making by the local CSD. In more prominent issues the local managing director consults with the Management Committee in Euroclear SA/NV, and decisions made by the Management Committee are communicated via the managing director to the local CSD. In this manner, the managing director receives guidance in local decision-making and it is then the responsibility of the local CSD to formulate the basis for the decision and present it to the local board of directors. This means that there is no direct communication between the Management Committee in Euroclear SA/NV and the local CSD's board of directors.



The board of directors of Euroclear Sweden consists of five members, of whom two are the managing directors of Euroclear Sweden and Euroclear Finland, respectively, two are representatives of Euroclear Sweden and one is independent of the Euroclear Group. The board of directors also has four employee representatives, of which two are deputy members. Finansinspektionen conducts a suitability assessment of the members of the board of directors. The suitability assessment also encompasses the managing director and the deputy managing director, and Euroclear Sweden's management team is furthermore supervised by its board of directors. According to the Swedish Companies Act (2005:551) (ABL), a member of a board of directors is obliged to demonstrate loyalty to the company (duty of loyalty), which means that members of the board of directors may not represent individual shareholders or interest groups.

During 2010, Euroclear Sweden changed its management model from an executive management group to a more decentralised model with delegated responsibility, within certain limits, to each function's operational managers. The managing director is ultimately responsible for the operations and a "college" has been established to promote coordination. Even though a college has replaced the management team, it is not a decision-making body. Rather, it consists of the operational managers of all of the functions within both Euroclear Sweden and Euroclear Finland. The purpose of the college is to coordinate decisions and the utilisation of resources within Euroclear Sweden and Euroclear Finland as well as to create a forum for important issues that are common from a "Nordic" perspective. Euroclear Sweden's risk management function is therefore an independent staff function and reports directly to the managing director as well as to the risk division in Euroclear's parent company, which creates a clear separation in the reporting chain between the risk management function and the rest of the operations.

One of the Euroclear Group's principles is to establish Market Advisory Committees (MACs) in all countries in which it has operations. These committees serve as Euroclear's most important channel for identifying users' wishes and opinions on major issues on each local market. In Sweden, the MAC meets four times per year, but additional meetings can be added if necessary. The committees include user representatives, including relevant authorities. The members of the MAC are appointed and approved by the board of directors of Euroclear SA/NV, which ensures that these members represent the interests of different users on the market. The chairman of the MAC represents the users. Members of Euroclear Sweden's senior management also participate in the MAC meetings. Such a committee was established in Sweden in January 2009.

Systems for internal governance and control are to be clearly defined, comprehensible and transparent. Euroclear Group's governance, objectives and operational structure are reported on its website and in its annual report. However, information regarding Euroclear Sweden's governance is unclear and difficult to find, and information about the management function as well as the process for how important decisions are made should be presented more clearly. Furthermore, information on the website about the members of Euroclear Sweden's board of directors is limited to only their names. Information regarding Euroclear Sweden's governance should therefore be presented more clearly, and the background of the board members should be published to provide a complete picture of the company's board of directors.

Euroclear Sweden gains insight into the participants' wishes and opinions primarily via the MAC meetings. Important decisions made by Euroclear are communicated to the market via the MAC as well as member meetings and e-mail. As Euroclear Sweden plays a central role on the Swedish market, it is very crucial that communication between Euroclear Sweden and the actors on the market functions effectively. During the interviews conducted by Finansinspektionen and the Riksbank with Euroclear Sweden's participants, it has come forth that communication with Euroclear Sweden has deteriorated. The participants state that it is currently more difficult to raise their opinions and viewpoints on important issues, that feedback from Euroclear Sweden has been affected negatively and that the distribution of information has functioned satisfactorily. Euroclear Sweden should therefore investigate which measures can be taken to improve communication with the participants.



## Recommendation 14: Access

*CSDs should have objective and publicly disclosed criteria for participation that 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 14 is observed.

### Considerations

The criteria for participation in the VPC system are objective, as they are aimed at the characteristics participants must have in order not to cause disturbances to the settlement process. These criteria are clearly stated in Euroclear Sweden's regulations. The criteria for Euroclear Sweden's withdrawal procedures are specified in Euroclear Sweden's general terms and conditions.

### Description

According to the VpML and the LKF, clearing organisations and CSDs are to apply the principles of free access and neutrality to the participants. Among others, the criteria for participation in the VPC system include good management, sufficient capital, a risk management organisation able to deal with unforeseen events in securities settlement and the technical capacity to function in the VPC system.

Procedures for withdrawal are specified in Euroclear Sweden's general terms and conditions. Euroclear Sweden cannot unilaterally exclude a participant from the system, unless the participant is having payment difficulties or is otherwise in contravention of the system's rules. A contact person to provide assistance in the event of problems or dissatisfaction with the application of the general terms and conditions or existing processes has been appointed by Euroclear Sweden.

## ■ Recommendation 15: Efficiency

*While maintaining safe and secure operations, securities settlement systems should be cost-effective in meeting the requirements of users.*

### Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 15 is observed.

### Considerations

IT costs form a major portion of Euroclear Sweden's costs. These costs are regularly reviewed and special investigations have been conducted by external experts. In 2010, Euroclear Sweden commenced the outsourcing of its IT function to an external service supplier.

Euroclear Sweden meets participants individually and at regular participant meetings. The participants have the opportunity to submit suggestions and inform Euroclear Sweden about how satisfied they are with its services. The banks are satisfied with the system for settlement cycles and neither need nor want to change the current system. Euroclear Sweden regularly tests its IT capacity and, on the whole, has a very high level of access.

### Description

The VPC system is subject to the regular internal control of pricing and costs. Whenever possible, the company compares its IT costs, which are the single greatest cost item, with the costs of other suppliers of IT services.

Euroclear Sweden also compares its prices with those of other CSDs in the Nordic countries and the rest of Europe, whenever possible. These investigations have so far indicated that Euroclear Sweden's prices are competitive. However, both Euroclear Sweden's analyses and the Riksbank and Finansinspektionen's assessments have found it difficult to make meaningful cost and price comparisons with other CSDs, due to the differences in pricing strategies, services offered and market size.

In the VPC system, client satisfaction is controlled with the aid of client surveys, member meetings and participant visits.<sup>18</sup> The Riksbank and Finansinspektionen have also interviewed the participants this year<sup>19</sup> and the interviews indicate that the participants are generally satisfied with the services offered by Euroclear Sweden and very satisfied with the system's technical reliability. The participants have the opportunity to suggest new services or adaptations of old services and receive information on the manner in which these suggestions are handled by Euroclear Sweden. Each participant suggestion is numbered so that the clients can follow the handling of their suggestions. However, the participants feel that the handling of these suggestions has deteriorated somewhat and that today it takes longer to receive feedback and for the change to be implemented. Euroclear Sweden also monitors operational security and capacity.<sup>20</sup>

The method for actual settlement involves blocking the liquid funds required and keeping them in the system until it is time for settlement. The VPC system has been designed to provide ongoing gross settlement, but provides separate settlement batches to meet participants' demands. The system has been in use since 2003, and the participants are satisfied with the present number of settlement points and the times of these. The participants have chosen to inject large amounts of liquidity into the system, i.e. enough to allow most transactions to be settled at the day's first settlement point. For the PM, the first settlement takes place at 8am. This means that the main portion of the liquidity transferred to the system has been used and can be reintroduced to the system for major payments by just after 8am, so that the banks have access to this liquidity for the larger part of the banking day. When the transactions are marked as ready in the VPC system, with regard to both securities and liquidity, they can be used in new transactions, which is both efficient and financially advantageous for the participants since they do not need to wait for the next settlement round.

<sup>18</sup> In VPC's case, the clients are participants in the system.

<sup>19</sup> Ten participants in Euroclear Sweden were interviewed regarding their opinions of the VPC system and the manner in which Euroclear's services functioned.

<sup>20</sup> See Recommendation II.



## ■ Recommendation 16: Communications procedures messaging standards and straight-through processing (STP)

*CSDs and participants in their systems should use or accommodate the relevant international communication procedures and standards for messaging and reference data in order to facilitate efficient clearing and settlement across systems. This will promote straight-through processing (STP) across the entire securities transaction flow.*

### Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 16 is observed.

### Considerations

Euroclear Sweden provides international message standards and international communications networks.

### Description

Euroclear Sweden provides both a proprietary interface and an ISO 15022-based interface for messages and communication. The ISO 15022-based interface can be used for messages sent both via its own communications network and via SWIFT.

## ■ Recommendation 17: Transparency

*CSDs should provide market participants with sufficient information for them to identify and accurately evaluate the risks and costs associated with securities clearing and settlement services.*

### Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 17 is observed.

### Considerations

Euroclear Sweden provides the public with information about the costs of its services, the level of access and the proportion of transactions settled on time. The conditions for participation in the VPC system are also clearly defined. This information makes it possible to assess the risks and costs associated with the operations. Regularly updated information is available in Swedish and/or English.

### Description

Euroclear Sweden informs its users of the risks and costs associated with its services. Euroclear Sweden's *General Terms and Conditions, Account Operations and Clearing*, published on its general website, inform participants of the risk that their transaction may not be settled if their counterparty fails to fulfil its commitments. The publication of statistics regarding transactions in which the participants have not fulfilled their commitments also forms part of this information. Information on such transactions, responsible participants and the securities is available to Euroclear Sweden's participants on a secured area of the website. Study material and descriptions of routines are also available in physical form.

Participants can obtain certain information on operational risk from Euroclear Sweden's accessibility statistics and incident reports, which are published on the general website and presented at member meetings. Euroclear Sweden has replied to the ECSDA Disclosure Framework<sup>21</sup>, which deals with risk management, and also provides links to the most recently published assessment by the Riksbank and Finansinspektionen. The website also presents responses to the questionnaire of the Association of Global Custodians (AGC), which covers risks.

The participants also receive current information, via both the website and member meetings, on the operation of the system, previous operating information and information on planned system modifications, as well as previously-implemented system modifications.

Information on the costs of joining Euroclear Sweden and on running costs for the various services is available on the website, in accordance with the Code of Conduct. The website presents a price list, pricing examples for various types of participants and a conversion table allowing the prices of various CSDs to be compared.

Euroclear Sweden has a website, [www.euroclear.eu](http://www.euroclear.eu), that can also be accessed via Euroclear Group's website, [www.euroclear.com](http://www.euroclear.com). The website at [www.euroclear.eu](http://www.euroclear.eu) is available in both Swedish and English.

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<sup>21</sup> The ECSDA (European Central Securities Depositories Association) has prepared the Disclosure Framework, a joint questionnaire aimed at answering the questions market participants may have regarding CSDs.

## ■ Recommendation 18: Regulation, supervision and oversight

*CSDs and securities settlement systems should be subject to transparent, consistent and effective regulation, supervision and oversight. In both a national and a cross-border context, central banks and securities regulators should cooperate with each other and with other relevant authorities regarding the CSD and the securities settlement systems it operates. Central banks and securities regulators should also ensure a consistent implementation of the recommendations.*

In this assessment, the Riksbank and Finansinspektionen separately present the work they are conducting regarding the requirements placed by Recommendation 18 in regard of supervision and monitoring.

The Riksbank and Finansinspektionen have opted not to assess their own work themselves. 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 partly observed. 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.<sup>22</sup>

### Finansinspektionen

#### *Regulation*

For regulation, refer to Recommendation 1.

#### *Supervision*

Euroclear Sweden is to have appropriate regulations for the manner in which clearing activities are conducted. This is to be controlled both during license assessment and as a part of current supervision. Finansinspektionen exercises supervision of whether Euroclear Sweden is conducting its operations in accordance with the VpML, other statutes regulating the company's operations, the company's articles of association, statutes or regulations, or internal instructions based on statutes regulating Euroclear Sweden's operations. Euroclear Sweden also has a statutory obligation to disclose to Finansinspektionen, and this authority may require Euroclear Sweden or another party to provide information, documents or other material required by Finansinspektionen in its supervision.

As a part of its supervision, Finansinspektionen may also implement on-site investigations of Euroclear Sweden, appoint one or more auditors to participate in the audit of the company in conjunction with other auditors or call a meeting of the board of directors. Finansinspektionen may also require the board of directors to call an extraordinary general meeting.

As a part of its supervision, Finansinspektionen, together with the Riksbank, conducts this annual assessment in accordance with the ESCB-CESR's recommendations for systems for securities settlement.<sup>23</sup>

In addition to this, Finansinspektionen conducts current supervision of Euroclear Sweden, including such elements as regular supervisory meetings, which address changes in operations, such as, for example, changes to the organisation, products and services, as well as systems, the regulatory framework and risks. Euroclear Sweden reports financial information to Finansinspektionen on a quarterly basis.

Events that entail or that may entail faults in technical systems or Euroclear Sweden's inability to fulfil its commitments towards (for example) clearing participants are reported to Finansinspektionen in accordance with Finansinspektionen's General Guidelines regarding Reporting of Events of Material Significance (FFFS 2005:12). This also applies to outsourced operations and a condition for outsourcing is that Finansinspektionen, through Euroclear Sweden, has full insight into the outsourced operations.

As regards the supervision of Euroclear Sweden in the capacity of CSD, the LKF refers to the provisions of the VpML. This means that, with the exception of a number of provisions, the rules of the VpML are also applicable to the supervision of Euroclear Sweden in the capacity of CSD.

<sup>22</sup> 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.

<sup>23</sup> Previously the CPSS-IOSCO's recommendations.



The ongoing supervision of stock exchange and clearing organisations is conducted by a supervisory group of five individuals within the Securities Markets Unit of the Markets Department. Licensing matters and support in legal issues are also handled by the Securities Law Unit of the Markets Department.

#### *Cooperation with foreign authorities*

Finansinspektionen and its Finnish equivalent, Finanssivalvonta (the Finnish Financial Supervisory Authority), have entered a cooperation agreement regarding the supervision of Euroclear Sweden. The agreement's objective is to guarantee effective and integrated supervision, and was signed in September 2006.

The registered offices of the parent company of the Euroclear Group are located in Belgium. The Belgian supervisory authority, Commission Bancaire Financière et des Assurances (CBFA), is thereby the coordinating authority for supervisory issues concerning Euroclear. Euroclear Sweden is still a Swedish company, subject to Swedish law and falling under the supervision of Finansinspektionen. Finansinspektionen has established cooperation with the Belgian supervisory authority and has entered into a Memorandum of Understanding (MoU) concerning the supervision and monitoring of the group with all supervisory authorities and central banks of countries in which Euroclear is active. As part of this cooperation all of the supervisory authorities meet regularly. Representatives from the Euroclear Group are also present at these meetings.

#### **Sveriges Riksbank**

The Riksbank is related to Euroclear Sweden in three ways. The cash settlement of transactions in SEK between settlement banks in central bank money takes place through Euroclear Sweden's account in RIX. Furthermore, the Riksbank is a member of the VPC system and uses Euroclear Sweden for the safekeeping of securities that have been pledged as collateral for intra-day credits in RIX. In addition, the Riksbank oversees the VPC system.

#### *Monitoring*

The basis of the Riksbank's supervisory role is formed by the Sveriges Riksbank Act<sup>24</sup>, according to which the Riksbank is responsible for the promotion of a safe and efficient payment system. In addition, the Riksbank is to act as a lender of last resort, which means providing emergency liquidity assistance in the form of credits granted under special terms and conditions. The Sveriges Riksbank Act provides the Riksbank with the right to demand from institutions any information it 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 supervisory work, 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 through 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 so-called "moral suasion"<sup>25</sup>. One expression of this is the Riksbank's publication of the assessment on its website.

The Riksbank has determined that Euroclear Sweden is systemically important as the values settled in the VPC system are large, but also because the settled securities are used as collateral in RIX. Disturbances in Euroclear Sweden's operations thus risk spreading to other institutions and other parts of the payment system. Furthermore, the VPC system is the only company to provide, in the capacity of CSD,

<sup>24</sup> Swedish Riksbank Act (1988:1385).

<sup>25</sup> "Moral suasion" entails informal pressure, which differs from formalised forcible means.





services for the settlement of securities transactions on the Swedish market. There is thus no alternative to the VPC system. Consequently, the Riksbank regularly monitors the VPC system and annually evaluates it on the basis of the ESCB-CESR's recommendations for systems for securities settlement.<sup>26</sup>

In its oversight the Riksbank strives to deem whether Euroclear Sweden has procedures and routines to minimise the settlement risks associated with its operations. The assessment of the VPC system on the basis of the ESCB-CESR's recommendations is important to this assessment. In the event of a crisis on the Swedish markets, the Riksbank is to act to minimise the resulting costs. In order to reduce the costs of crisis management, a reliable analysis of the crisis situation is crucial. Understanding the VPC system and the risks associated with the use of the system are fundamentally important to crisis analysis.

At the Riksbank, the Financial Infrastructure Division of the Financial Stability Department deals with the supervision of the financial infrastructure. A total of seven individuals work in the division, in addition to which 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<sup>27</sup>. A presentation of the Riksbank's view of its mandate was published in 1997<sup>28</sup> and a description of the Riksbank's supervisory role was published in 2001<sup>29</sup>. Both of these publications, as well as speeches and responses to consultations dealing with the financial markets, are 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 pursuit of its mandate. In order to collect this information, the Riksbank utilises:

- Quarterly meetings, at which representatives of the Riksbank meet representatives of Euroclear Sweden to discuss the company's operations. These meetings focus on Euroclear Sweden's operations, systems maintenance and risk management.
- The annual assessment of Euroclear Sweden in accordance with international standards, which involves an annual update by the company 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 to the BIS and the ECB.

#### *International cooperation*

As Euroclear's main offices are located in Belgium, the National Bank of Belgium (NBB) and the Commission Bancaire, Financière et des Assurances (CBFA) lead the supervisory cooperation for the joint issues within the Euroclear Group in which the central banks and supervisory authorities of the countries concerned participate.<sup>30</sup> The Riksbank has established cooperation with the NBB and has entered into a Memorandum of Understanding (MoU) with the other supervisory authorities and central banks concerning the supervision and monitoring of Euroclear.

<sup>26</sup> Previously the CPSS-IOSCO's recommendations.

<sup>27</sup> *Financial Market Report* 1995:1.

<sup>28</sup> *Financial Market Report* 1997:1.

<sup>29</sup> 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

<sup>30</sup> The countries whose central banks and supervisory authorities currently participate in this cooperation are Belgium, the Netherlands, France, the United Kingdom, Ireland, Finland and Sweden.

## Recommendation 19: Risks in cross-system links or interoperable systems

*CSDs that establish links to settle cross-system trades should design and operate such links so that they effectively reduce the risks associated with cross-system settlements. They should evaluate and mitigate the potential sources of risks that can arise from the linked CSDs and from the link itself.*

### Assessment

In the view of the Riksbank and Finansinspektionen, Recommendation 19 is observed.

### Considerations

Less than one per cent of Euroclear Sweden's transactions are handled via links. Euroclear Sweden has carried out a risk analysis of both its FoP links and its DvP links. The main part of Euroclear Sweden's operations via links takes place on a FoP basis, without preliminary transfers. This procedure entails a small degree of risk for Euroclear Sweden. A lesser proportion of these linked transactions take place via DvP links. Euroclear Sweden uses a settlement bank for its DvP links and is only exposed to settlement risk against custodial banks for transactions with US securities. This is the only direct risk for the system. The amounts in question are very small and Euroclear Sweden regularly monitors its custodial banks, thus minimising the risks mentioned in this context.

### Description

Euroclear Sweden has links to other CSDs for two reasons: to facilitate the transfer of securities listed on more than one regulated market and to handle foreign securities kept in Euroclear Sweden's service accounts. Service accounts are accounts for end users provided by Euroclear Sweden in its system, on behalf of a user. For securities listed on more than one regulated market, Euroclear Sweden has set up either direct or indirect FoP links. Direct FoP links have been established with the Danish securities depository VP A/S, the British securities depository Euroclear UK & Ireland, the Finnish securities depository Euroclear Finland Oy and the Swiss securities depository SIX SIS AG (SegalInterSettle). Indirect FoP links have been established with Denmark via Danske Bank, Finland via Nordea, Iceland via Svenska Handelsbanken, Norway and Germany via SIS and the United States and Canada via Brown Brothers Harriman and Company (BBH).

In connection with its service account, Euroclear Sweden has set up a number of DvP links for European and North American securities. For European securities in the service account, Euroclear Sweden has established a direct DvP link in commercial bank money with Euroclear Bank. For the settlement of instructions via this link, Euroclear Sweden uses the service account client as settlement bank, while Euroclear Sweden itself is a participant in the system for securities settlement. This means that the service account client has a settlement account in its own name with Euroclear to cover the cash leg of its transactions. If a service account client is not, itself, an existing settlement bank in Euroclear, the client is encouraged to use another settlement bank to handle the cash leg of its transactions. This makes it the service account client or settlement bank that takes the credit risk for Euroclear, while Euroclear Sweden itself incurs no settlement risk or other credit risk in the use of this link.

For the handling of US equities on service accounts, there is an indirect DvP link via BBH. Euroclear Sweden is not a direct participant in the settlement system, but, instead, has a securities account with BBH. The service account client has access to a settlement account with BBH, in which the settlement payment for the securities transactions is regulated.

Cash disbursements, for example dividends via the links mentioned above, are placed, primarily in conjunction with the service accounts, in Euroclear Sweden's settlement accounts. In the event of a disbursement to the settlement account, Euroclear Sweden makes a foreign exchange, transfers the funds and makes an outgoing payment in SEK to the account holders. Euroclear Sweden bears the credit risk for its custodial bank and the Swedish bank until the disbursement is credited to the account holders. Euroclear Sweden thus incurs a credit risk for cash disbursements, for example in conjunction with disbursements in which Euroclear Sweden handles the flow of payments, but not for payments used in the settlement of securities transactions.



- Euroclear Sweden has undertaken risk assessments for these links with the emphasis on operational risks and emergency plans. Euroclear Sweden does not allow preliminary transfers. The clients are informed via Euroclear Sweden's website of the manner in which the links and the respective markets function, as well as which custodial bank is being used, so that they can assess risk in relation to the custodial bank when the links are used.



## ■ Sources

### Laws

The Swedish Rights of Priority Act (SFS 1970:979).

The Swedish Bankruptcy Act (SFS 1987:672).

The Sveriges Riksbank Act (SFS 1988:1385)

The Swedish Financial Instruments Trading Act (SFS 1991:980).

The Swedish Financial Instruments Accounts Act (SFS 1998:1479)

The Swedish Investor Protection Act (1999:158)

The Swedish Income Tax Act (1999:1229)

The Swedish Act on Systems for the Settlement of Obligations on the Financial Market (SFS 1999:1309).

The Securities Market Act (2007:528).

### Regulations

FFFS 2008:25 Regulations and general guidelines regarding annual reports at credit institutions and investment firms

FFFS 2007:16 Regulations regarding securities operations

FFFS 2005:12 General guidelines regarding the Reporting of Events of Material Significance

### Documentation

The Swedish Securities Dealers Association's rules governing trading in securities and settlement of transactions

2009 Annual Report, Euroclear

Application instruction for participation in Euroclear Finland and Euroclear Sweden

Clearing och avveckling i VPC-systemet (Clearing and settlement in the VPC system) (2010-09-29)

VPC-systemet en överblick (An overview of the VPC system) (2009-10-20)

Euroclear Sweden Disclosure Framework, March 2010

Euroclear Sweden AGC Questionnaire (2009-2010)

European Code of Conduct on Clearing and Settlement

Allmänna villkor, kontoföring och clearing (General Terms and Conditions, Account Operations and Clearing) (2009-02-07), Euroclear Sweden



2010 Price List, Euroclear Sweden

Special Resolution, Settlement Incentives, Euroclear Sweden

Special Resolution, Settlement Plan, Euroclear Sweden

Financial Stability Report, The Riksbank 2002:2

Agreement between the Riksbank and VPC AB

European System of Central Banks (ESCB) in cooperation with The Committee of European Securities Regulators (CESR) Recommendations for Securities Settlement Systems In The European Union May 2009

Agreement between the Riksbank and Suomen Pankki (Bank of Finland) on the cooperation for monitoring the CSDs VPC AB and Suomen Arvopaperikeskus Oy, 18 January 2006

Cooperation agreement between Finansinspektionen and Finanssivalvonta (the Finnish Financial Supervision Authority) on supervision of the NCSD Group, September 2006

Clearing and Settlement Risks, report 24 October 2002, (FI Ref. 02-3436-000)

Committee on Payment and Settlement Systems och Technical Committee of the International Organization of Securities Commissions,

CPSS/IOSCO Recommendations for Securities Settlement Systems, BIS, November 2001

CPSS/IOSCO Assessment methodology for "Recommendations for Securities Settlement Systems", BIS, November 2002

Committee on Payment and Settlement Systems, Central bank oversight of payment and settlement systems, BIS, 2005

Core Principles for Systemically Important Payment Systems, Committee on Payment and Settlement Systems, BIS, January 2001.

European Central Securities Depositories Association's First annual status report relating to its standards for the removal of Giovannini barriers 4 and 7

Directive 98/26/EC of the European Parliament and of the Council of 19 May 1998 on settlement finality in payment and securities settlement systems

Directive 2002/47/EC of the European Parliament and of the Council of 6 June 2002 on financial collateral arrangements.

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.

#### **Other sources**

[www.euroclear.eu](http://www.euroclear.eu)

[www.euroclear.com](http://www.euroclear.com)

[www.fi.se](http://www.fi.se)

[www.riksbank.se](http://www.riksbank.se)