



Reg.no. 2008 173 AFS
Reg.no. 08 5262

Assessment of Securities Settlement in Sweden 2008

Financial markets have several important functions. They convert savings into investments, provide means for managing risks 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. In the Swedish securities market VPC AB¹ plays a central role in the post trade processing of securities transactions as the Swedish Central Securities Depository (CSD).

Because of the critical role securities transactions play, both the Riksbank and Finansinspektionen deem it important to assess the functioning of the entire post trade processing of securities transactions on the Swedish market. Finansinspektionen and the Riksbank categorise VPC as an institution of importance for the stability of the financial system.

This assessment follows the recommendations and methodology developed jointly by the Committee on Payment and Settlement Systems (CPSS) and the Technical Committee of the International Organization of Securities Commissions (IOSCO).²

Summary

In accordance with the current agreement on co operation in the field of financial stability, the Riksbank and Finansinspektionen have co operated in this assessment. The two authorities have collaborated in planning the focus of the assessment and collecting and reviewing information from VPC. Both the Riksbank and Finansinspektionen stand behind the conclusions of this assessment.

The Riksbank and Finansinspektionen have considered the various stages in the post trade processing of securities. The assessment is based on the CPSS IOSCO recommendations with a focus on the VPC system in which the actual settlement takes place.

¹ On February 2 2009, VPC changed its legal name to Euroclear Sweden AB (Euroclear Sweden), but since this is an assessment of the securities settlement in Sweden during 2008 the name VPC is used throughout the document.

² CPSS IOSCO, Recommendations for Securities Settlement Systems, BIS, November 2001, and CPSS IOSCO, Assessment methodology for Recommendations for Securities Settlement Systems", BIS, November 2002.

SVERIGES RIKSBANK

(Brunkebergstorg 11), SE 103 37 Stockholm. Tel +46 8 787 00 00. Fax +46 8 21 05 31.
e mail: registrator@riksbank.se. www.riksbank.se DNR:2008 173 AFS

FINANSINSPEKTIONEN

P.O Box 7821, (Brunnsgatan 3), SE 103 97 Stockholm. Tel +46 8 787 80 00. Fax +46 8 24 13 35
e mail: finansinspektionen@fi.se. www.fi.se DNR:08 5262 316

On 31 October 2008 the Belgian group Euroclear acquired all the shares in NCSD Holding AB (NCSD Holding) which in turn owns 100 per cent of the shares in VPC. Consequently, VPC now has a new foreign owner. The change of ownership does not entail any difference as regards the legal status of VPC in Sweden. The company will continue to be a Swedish registered company subject to Swedish law and supervision by Finansinspektionen. The Riksbank will continue to oversee VPC. Consequently the view of Finansinspektionen and the Riksbank of VPC as a systemically important institution will continue to be the same.

The assessment is based on VPC's answers to the key questions in the CPSS IOSCO recommendations, information derived from the Riksbank's ongoing oversight activities, the supervision carried out by Finansinspektionen and the documents cited in the list of references. In addition to the key questions mentioned above, ten participants in VPC's system (approximately a quarter of the total) were interviewed in 2006.

Recommendation 18 concerns the regulation, supervision and oversight of the CSD. In the assessment each authority's activities have been described on the basis of this recommendation. However, the authorities have consciously refrained from themselves assessing the extent to which the recommendation has been observed.

Each recommendation opens with an assessment, followed by a discussion of the considerations on which the assessment is based, and a comment if such is deemed necessary. An in depth description then follows. The assessment category expresses the result of the assessment as one of the following four categories: observed, broadly observed, partly observed and non observed. A recommendation can also be marked as not applicable or not assessed. The discussion on considerations states the extent to which securities settlement in Sweden observes or does not observe the recommendation.

In the 2008 assessment, VPC observed all the recommendations; one, however, was not applicable and one was not assessed. This is shown in the table below. The recommendation that was not assessed deals with the role of the authorities and thus does not affect VPC's operations.

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

Background

In Sweden shares are traded on the regulated marketplaces at Nasdaq OMX Stockholm AB (OMX) and at Nordic Growth Market NGM AB (NGM). Share trading also takes place on the trading platforms (MTF) First North (OMX), Nordic MTF (NGM) and Aktietorget. Swedish shares are also traded on international trading platforms such as Chi X. Most of the trading, also in terms of turnover, takes place primarily on the OMX exchange, where the most companies are listed. The majority of fixed income securities are traded over the telephone Over the Counter (OTC).³

VPC is the CSD for Sweden and operates Sweden's only domestic securities settlement system.

³ OMX also has a small electronic trading platform for certain fixed income instruments.

■ Legal status and oversight

VPC is authorised to run clearing operations and is an authorised CSD. It is also responsible for the securities settlement system. After consultation with the Riksbank, Finansinspektionen has approved VPC's settlement system and notified the European Commission of this. VPC is subject to the supervision of Finansinspektionen.

Ownership structure

VPC is 100 per cent owned by NCSD Holding. Since 2004 VPC has owned the Finnish CSD, called APK. On 31 October 2008 the Belgian group Euroclear acquired all the shares in NCSD Holding. The merger only involves small changes for VPC's activities in the short term. VPC will migrate to Euroclear's new Single Platform as soon as it is ready, which is expected to be in 2011. Until then VPC's current IT platform will be used. VPC will continue to be a Swedish company subject to Swedish law and the supervision of Finansinspektionen.

The securities depositories in the Euroclear group operate in seven European markets.

Brief history

VPC was founded in 1971, at which time the Swedish Government owned 50 per cent of the shares in the company. VPC took on the task of managing companies' share registers, executing instructions for dividend payments and issuing share certificates. The processing of securities transactions changed significantly in 1989 when Swedish share certificates were dematerialised. As of 1989, VPC has been responsible for the account system for these securities and for settling securities transactions.

Originally, VPC's system provided net settlement only once a day with a supplementary real time service, but as of 2003, gross settlement can take place either continuously or at specific times during the day.

In 2004, VPC acquired all the shares in Finland's central securities depository Suomen Arvopaperikeskus Oy (APK) from OMX Exchanges Oy⁴. The Finnish central securities depository thus became a subsidiary of VPC. The holding company, NCSD Holding, owns VPC, which in turn owns APK. Through Euroclear's acquisition of all the shares in NCSD Holding, both VPC and APK are part of the Euroclear Group, in which both CSDs operate as separate legal entities. On 2 February 2009 the companies changed their names to Euroclear Sweden and Euroclear Finland.

Operations

Services

VPC's main operations consist of the following three parts:

1. Registration

- Register of shareholders
- Issuance
- Distribution of payments

2. Clearing operations

- Matching

⁴ OMX Exchanges Oy is a wholly owned subsidiary of OMX.

- Clearing
- Settlement

3. Account holding

- VPC account

VPC provides services to support registration, issuance and account holding in accordance with its CSD authorisation. In accordance with VPC's authorisation as a clearing organisation, securities settlement is primarily a service for the Swedish market, but VPC offers its services for both Swedish and foreign securities. VPC's account services include distributing payment instructions for example for interest payments, tax reporting and withholding, custody of securities, and providing information and services in connection with corporate actions. VPC also operates a system which settles equity market and money market instructions on a gross basis with the proceeds of settlement being available at specific designated times during the day. A supplementary real time gross settlement (RTGS) service is also offered.

Clearing and settlement in the VPC system is in two parts; equity market and money market. The equity market mainly handles equity and debt instruments aimed at private individuals, such as bonds and lottery bonds. The money market handles debt instruments for the institutional market, such as treasury bills, mortgage certificates and mortgage and government bonds.

Settlement of securities instructions is provided in central bank money via an integrated model in both EUR and SEK. Settlement of instructions involving payments always uses delivery versus payment (DvP) procedures.

Participation

VPC accepts Swedish and foreign entities as participants in its settlement system. The requirements for participation are stated in VPC's rules and regulations. As of December 2008, there were 52 financial institutions participating in VPC's system.

Account structure

VPC's system facilitates both direct and indirect holdings. In December 2008 the system maintained approximately 3.3 million securities accounts.

Technical platform

VPC offers settlement services through a settlement system developed in house. Communications are routed through the NCSN Network or SWIFTNet. Some services are also available online. The agreements with VPC's hardware and software suppliers allow for an increase in capacity as required by VPC. The system is an *on demand* system which allows for the system's process capacity to be increased as needed as the supplier electronically controls the capacity on demand. The participants receive real time information about their accounts and transaction status via computer terminals and the system interface. These are available in both standard ISO 15022 format and VPC's proprietary format.

Clearing and settlement

Participants initiate the settlement process by submitting instructions to the VPC system. The system then matches the buy and sell orders in the money market and orders and deliveries in the equity

market.⁵ When the instructions have been matched, they are unilaterally irrevocable. The normal settlement cycle is T+3 for the equity market and T+2 for the money market.

The gross settlement process begins at 07:15 am on the settlement day. Each of the matched instructions goes through a control process individually to ensure first that securities are available in the seller's securities account and then that the cash is available in the buyer's liquidity account, called a cash memorandum account.

The Riksbank has given VPC the task of administering special central bank accounts in SEK for securities settlement and also granting intraday credit for securities settlements on behalf of the Riksbank. The holdings on these liquidity settlement accounts are claims on the Riksbank.⁶ For securities settlement in EUR, VPC uses a client account in TARGET2, where the settlement banks' individual balances are then noted in separate liquidity accounts for EUR in the VPC system. For both SEK and EUR, the settlement banks in turn grant each clearing member a debit cap for securities settlement which is the amount of cash that the customer has available for the settlement process. The system then checks that each settlement bank has sufficient liquid assets to cover all of its own transactions and those of its underlying clearing members, as well as its customers. If securities and cash are available, these assets are blocked for settlement. At this point, the transaction is marked ready for settlement and is guaranteed to be settled at the next settlement time during the day. The transaction will thus be executed at this point, even if one of the parties to the transaction is declared bankrupt.

During the control process, different algorithms are used to check if a group of instructions may be marked ready for settlement simultaneously. For example, if a participant has entered buy and sell instructions for the same security and if this participant has delivery and payment capacity for the net position of these transactions, both will be marked ready for settlement. All instructions that have simultaneously been marked ready for settlement will obtain identical time stamps and identification numbers. However, for each individual instruction, a securities transaction and a payment transaction will be registered on the account concerned. There is no limit to how many transactions can be simultaneously processed in this way. Moreover, several different algorithms are used to optimise the number of transactions that may be marked ready for settlement for a given amount of liquid assets and securities. The calculations to optimise settlement start as soon as the system opens in the morning and continue throughout the day to make use of changes in customers' holdings of liquid assets and securities. This economises on the use of securities and cash.

As soon as an instruction has been marked ready for settlement, the cash or securities which a participant has accumulated in the control process can be used to settle subsequent instructions. Thus a running account of each participant's net blocked cash and net securities holding is maintained. The fact that a buyer may utilise securities that have been blocked in the buyer's favour to complete the control process for subsequent instructions (and vice versa for the seller) makes the system more efficient. The final stage in the settlement cycle, the actual settlement, occurs at three specific times for the equity market and at four specific times for the money market. After settlement, the cash is freely available and can be transferred out of the VPC system.

Funds obtained from securities transactions may be transferred back to the settlement bank's ordinary central bank account at the end of each settlement cycle. Funds which have not been blocked in the control process may be transferred back to the ordinary central bank account at any time during the day. All funds are returned to the settlement bank's ordinary central bank account after the last settlement time of the day.

⁵ Money market buy and sell instructions are called orders and deliveries in the equity market.

⁶ This procedure is described in the Riksbank Decision: Follow up of the Annual Work Plan and Budget for 2002, Annex 3 about system development for special central bank accounts for securities settlement which are administered by VPC, May 2002, and in the contract between the Riksbank and VPC, www.riksbank.se.

■ Statistics

In 2008 VPC cleared an average of about 1,700 money market transactions and 122,000 equity market transactions per day. The gross value per day of these transactions was about SEK 433.5 billion for money market instruments and SEK 33.6 billion for equity market instruments.

Current developments

As a result of the merger with Euroclear VPC will in the long term be changing its procedures and processes and adapting them to the Euroclear Group's processes. No change has taken place in 2008. VPC will use the existing systems and IT platform until migration to Euroclear's new platform, which is expected to be in operation in 2011. This assessment is based on the situation description referring to VPC in 2008.

The assessment

Recommendation 1: Legal framework

Securities settlement systems should have a well founded, clear and transparent legal basis in the relevant jurisdictions.

Assessment

The Riksbank and Finansinspektionen assess recommendation 1 as observed.

Considerations

Both Swedish legislation and EU provisions concerning clearing and settlement, as well as other rules and agreements governing VPC's activities in other respects are publicly available. This also applies to VPC's own rules and regulations. According to the assessment by the Riksbank and Finansinspektionen Swedish legislation gives legal support for post trade processing of securities transactions. VPC's general terms and conditions support the securities settlement process. This also states what happens if a participant is declared bankrupt. VPC's cross border activities are limited, but it has been established that the implementation of the Finality Directive in Sweden should prevent any conflict of laws arising.

Description

VPC has been owned indirectly by the Belgian Euroclear Group since 31 October 2008. Despite foreign ownership, VPC continues to be a Swedish registered company subject to Swedish law and the supervision of Finansinspektionen and the oversight of the Riksbank. In addition to Swedish legislation, VPC's role as CSD is also governed by VPC's own rules and regulations.

This recommendation takes into account the legal basis of settlement activities in Sweden. Moreover an examination is made of the regulatory framework, the provisions and the agreements governing VPC's settlement activities and also to some extent VPC's account keeping. All Swedish legislation and VPC's own rules, provisions and contracts are public and available on the Internet. The text below first covers Swedish legislation and thereafter VPC's own rules and regulations.

Swedish legislation

Finansinspektionen has authorised VPC to conduct clearing operations in accordance with the Securities Market Act and as a CSD in accordance with the Financial Instruments Accounts Act

(1998:1479). As a clearing organisation, VPC must conduct business in a way which maintains public confidence in the securities market and ensures that the individual's capital is not exposed to inappropriate risks. Moreover, VPC must meet the security requirements associated with sound business practices.

Finansinspektionen has approved and notified the EU Commission that VPC's settlement system should be designated under the Settlement Systems Act (1999:1309).

VPC's role as a clearing organisation and operator of a system for securities settlement is governed by Swedish legislation.⁷ Securities issued in Sweden are on the whole dematerialised and held in accounts in the VPC system. In the settlement process VPC moves dematerialised securities through account transfer and subsequently registers ownership. The account operator registers an instruction in the system which is carried out by VPC as a registration in the account. The legal basis for this registration, holding and transfer of ownership of dematerialised securities is the Financial Instruments Accounts Act (1998:1479). The Financial Instruments Trading Act (1991:980) provides the legal basis for netting contracts involving financial instruments.

The legal basis for settlement finality is the Settlement Systems Act, which came into being due to the Finality Directive. According to the Directive, securities transactions carried out in a designated settlement system are protected from any third party, even if one of the parties to the transaction goes bankrupt. The Directive also prohibits the revocation of securities transfers after they have been accepted in accordance with the regulations of the system.

Another important function of VPC is to provide services which facilitate pledging of collateral. Swedish legislation supports pledging and liquidation of collateral. In Swedish law, the party accepting a pledged security as collateral has a special right of priority before all other creditors to the pledged asset in case of bankruptcy.⁸ The collateral taker is thus entitled to liquidate the pledged asset immediately in the case of a bankruptcy. Swedish legislation has been amended to implement all mandatory requirements of the EU Directive on Financial Collateral Arrangements.⁹

VPC settlement is final upon delivery of cash and securities. The final cash settlement is largely made through RIX, the Riksbank's large value settlement system.¹⁰ RIX has been assessed in accordance with the *Core Principles for Systemically Important Payment Systems* (CPSS) and has been assessed as observing the principle of legal support.¹¹

VPC's rules and regulations

VPC's General Terms and Conditions for Account Operation and Clearing (VPC's General Terms and Conditions) are available on the VPC website.¹² They provide the rules governing each stage in the settlement process, from the registration of transactions to final settlement. The document gives a clear description of the stages in securities settlement and rules for how the system delivers settlement finality and delivery versus payment (DvP)¹³. The document also specifies the particular

⁷ The laws supporting securities lending are described in recommendation 5, those supporting the protection of customers' securities in recommendation 12, those supporting free access to the system in recommendation 14, and those regulating supervision and oversight in recommendation 18.

⁸ The Bankruptcy Act (1987:672) governs bankruptcy and bankruptcy proceedings.

⁹ The Directive has been incorporated into Swedish law. In Government Bill 2004/05:30 on financial collateral, the Government proposed a number of legislative amendments necessary for implementing Directive 2002/47/EC of the European Parliament and of the Council of 6 June 2002 concerning financial collateral arrangements. An important aim of the Directive was that the processing of collateral on EU's financial markets was to become more secure and more predictable. The Directive further stipulates that a collateral contract between parties shall also be protected against a third party in the event that one of the parties, for example, declares bankruptcy. Swedish law already contained far reaching protection, in conformity with the Directive, for those holding property as collateral. In order to bring Swedish regulations into full conformity with the Directive the Government proposed necessary changes and adjustments, which were subsequently incorporated into Swedish law.

¹⁰ A small percentage of VPC's cash settlement is processed through Suomen Pankki's large value settlement system.

¹¹ See www.riksbank.com

¹² www.euroclear.com

¹³ DvP stands for Delivery versus Payment.

■ grounds on which VPC can immediately exclude a participant from the system. The grounds include bankruptcy and revocation of a licence from Finansinspektionen.

The actions, rights and obligations of the participants are governed by an accession agreement between the participants and VPC. The documentation is clear and points to the risks involved in settlement.

As described in recommendation 10, the Riksbank and VPC have specific rights and obligations in connection with the central bank accounts that VPC administers. These are described in the contract between the Riksbank and VPC and in the Riksbank's Rules and Regulations for RIX and Monetary Policy Instruments. These documents describe the division of responsibility between the Riksbank and VPC in relation to RIX members holding central bank accounts administered by VPC.

Cross border activities

VPC's General Terms and Conditions make no distinction between Swedish and non Swedish participants, other than the obligation for foreign institutions to submit, on request, a legal opinion or equivalent regarding home country regulations which may be of relevance for participation in VPC.

VPC has a limited number of non Swedish participants from EU and EEA member states and handles a small number of cross border transactions through its links. The implementation of the Finality Directive in Sweden ensures that Swedish law will apply to all transactions in the VPC system. Thus no conflict of law situations should arise for settlement services supplied to EU or EEA participants, and there have not been any participants from countries outside the EU or EEA. VPC has cross border links either directly with other CSDs or indirectly via custodian banks to facilitate the transfer of certain non Swedish securities and all Swedish shares traded on the Helsinki stock exchange. Here too the implementation of the Finality Directive should prevent conflicts of law.

Recommendation 2: Trade confirmation

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.

Assessment

The Riksbank and Finansinspektionen assess recommendation 2 as observed.

Considerations

Equity trades from the stock exchange and nearly all fixed income trades are confirmed by T+0. All instructions registered in the VPC system are matched prior to settlement. Matching in the VPC system provides a form of confirmation for fixed income trades. Consequently, the recommendation concerning trade confirmation between direct market participants is met for fixed income securities and for equities. Trade confirmation is not generally required on the Swedish market but, where required in the agreement between two market participants, a confirmation is issued within hours of the trade.

Description

Since trading is electronic on the stock market, direct market participants can see their matched trades online. This serves as a confirmation. If the counterparties to a trade submit different information or do not agree on the terms of the trade, the exchange protocol or equivalent, for example the records from other authorised markets, should apply. Direct market participants must

■ register the trades with VPC before noon on T+1, according to the rules established by the Swedish Securities Dealers Association.

On the fixed income market, which is an OTC market, the Swedish Securities Dealers Association rules stipulate that trades have to "be registered in the VPC system no later than one hour following execution of the trade." Settlement matching occurs as soon as both parties have registered their instructions and given agreed matching criteria are met.

In any trade, Finansinspektionen's regulations require that a contract note normally be sent to the customer as soon as possible but no later than the first business day following the trade day.¹⁴ The contract note is forwarded to the indirect market participant and eventually to the end customer. Broker client agreements specify whether confirmation of trades between direct and indirect market participants is required. Such confirmation is done bilaterally. There is no central trade confirmation between the direct and the indirect market participants. In cases where agreements are required, for example where foreign customers are involved, the market participant issues a trade confirmation. Typically this confirmation is passed on to the indirect market participant within hours of the trade.

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 a settlement cycle shorter than T+3 should be evaluated.

Assessment

The Riksbank and Finansinspektionen assess recommendation 3 as observed.

Considerations

The settlement cycle in Sweden is T+3 or less and about 99 per cent of trades are settled on the specified date. VPC has incentives to ensure that settlement is on time and cooperates with market participants when problems arise. Together with the market participants, VPC considered a shorter settlement cycle, but found it best to have the same settlement cycle as most of the European markets, as otherwise problems could arise in cross border trading.

Description

The settlement cycle is normally T+3 for the equity market and T+2 for the money market. VPC's General Terms and Conditions clearly state that settlement must be on time and sanctions imposed for late settlement. In consultation with market participants, VPC has introduced a regime of incentives to encourage early settlement and a high settlement rate. These incentives are documented in VPC's General Terms and Conditions, Special Resolution CS 5, Settlement Incentives.¹⁵ There the amount of liquidity is specified which members and especially settlement banks must make available to the system at different times of the day. VPC monitors instructions not settled on the specified settlement date and publishes information on these failed instructions on VPC's member website each month, or more often if necessary. The information includes securities which have not been delivered and the names of participants which do not fulfil their obligations in time.

¹⁴ Finansinspektionen's Regulations FFFS 2007:16 governing investment services and activities. Chapter 17, Section 2 of the Regulation stipulates when an investment firm which has executed an order on behalf of a client is to provide information regarding execution of the order and when a contract note is to be sent to the customer. Note that a distinction is made between information requirements depending on whether the customer is a professional or non professional and whether the order refers to discretionary portfolio management. There are exceptions to this rule, which are described in the same provision.

¹⁵ VPC's General Terms and Conditions, Special Resolution CS 5 on Settlement Incentives, June 2005.

■ In 2008 the average settlement ratio for the equity market was 98.77 per cent in instructions and 99.24 per cent in value. This can be compared to an average settlement ratio in 2007 of 99.19 per cent in instructions and 99.28 per cent in value. In 2008 VPC and the market participants worked to develop stronger incentives for the players to deliver securities on time. The work, which will continue in 2009, is done at bilateral meetings with the participants and in projects to analyse statistics and evaluate various types of incentive. An important factor in this context is also the increasing use of central counterparties (CCPs) and their routines for securities settlement.

The settlement ratio for the money market was 99.82 per cent in instructions and 99.94 per cent in value in 2008. The corresponding figure for 2007 was 99.73 per cent in instructions and 99.93 in value. Unlike the shares that appear in statistics of failed deliveries, the majority of fixed income transactions that appear in the same statistics are actually settled on the correct day. The statistics reflect the transactions which are not settled in the regular settlement cycle but re entered later for real time settlement the same day.

There are, however, some cases where VPC's rules limit the obligation for a clearing member to settle on time on behalf of a customer. This is the case, for example, if the clearing member cannot reasonably borrow enough securities in the market to make a delivery.¹⁶

VPC has encouraged the market participants to consider a shorter settlement cycle, but their assessment was that this could increase the number of cases where participants in cross border transactions fail to fulfil their commitments. Moreover, market participants do not want a settlement cycle which deviates from that in the rest of Europe. VPC has also contributed to the work done by the European Central Securities Depository Association (ECSDA) to harmonise settlement cycles in Europe.¹⁷

Recommendation 4: Central counterparties (CCPs)

The benefits and costs of a CCP should be evaluated. Where such a mechanism is introduced, the CCP should rigorously control the risks it assumes.

Assessment

The Riksbank and Finansinspektionen assess recommendation 4 as observed.

Considerations

In 2008 several multilateral trading facilities (MTF) that use CCP clearing were introduced into the Swedish market in competition with Nasdaq OMX. In addition, due to the turbulence in financial markets, market participants have placed greater focus on counterparty risk. All in all, this has resulted in Nasdaq OMX announcing that in 2009 it intends to introduce a CCP for the Nordic stock exchanges, first as an optional alternative in Q1, becoming mandatory in Q4 for selected securities. VPC will continue to act to establish effectiveness and selectability for market participants as well as to minimise risk.

Description

In Europe there are already several CCPs in the clearing of derivatives, equities and fixed income securities. In Sweden there is one central counterparty Nasdaq OMX Derivatives Markets – for the derivative instruments that are traded on Nasdaq OMX. Until recently there has been no CCP in Swedish equities and fixed income securities traded in the spot market. As new MTFs are established

¹⁶ VPC's General Terms and Conditions, C.3.1.

¹⁷ European Central Securities Depositories Association's First annual status report relating to its standards for the removal of Giovanni barriers 4 and 7.

in Europe, where Swedish equities are also traded, it is now possible to also clear Swedish equities through a central counterparty. One example of a central counterparty for equity clearing is the European Multilateral Clearing Facility (EMCF), which is a central counterparty in the clearing of shares traded on Chi X and Nasdaq OMX Europe. Another example is EuroCCP¹⁸ which is a central counterparty in clearing shares traded on Turquoise. Moreover, in October the NASDAQ OMX Group Inc. bought a share in the EMCF with the intention that in 2009 the EMCF should function as a central counterparty for spot transactions in securities traded on the OMX Nordic exchange.

Recommendation 5: Securities lending

Securities lending and borrowing (or repurchase agreements and other economically equivalent transactions) should be encouraged as a method for expediting the settlement of securities transactions. Barriers that inhibit the practice of lending securities for this purpose should be removed.

Assessment

The Riksbank and Finansinspektionen assess recommendation 5 as observed.

Considerations

The Swedish OTC securities lending market is supported by Swedish legislation and standard documentation of the Swedish Securities Dealers Association. The settlement ratio of 99.82 per cent (instructions) and 99.94 per cent (value) for the money market and 98.77 per cent (instructions) and 99.24 per cent (value) for the equity market suggest that settlement functions efficiently.

Description

There is a market for both securities lending and for repurchase agreements using fixed income securities in Sweden. One function of these markets is to facilitate settlement. In both segments, the markets are dominated by a few players, but the exact concentration and size of these markets are unclear, since the OTC format results in the market not being integrated.

The legal basis for securities lending is the Financial Instruments Trading Act, Chapter 3. The Act applies to all financial instruments intended for trading on the regulated securities market. Chapter 10, Sections 10-11 of Finansinspektionen's Regulation FFFS 2007:16 governing investment services and activities specify the conditions applicable to the use of clients' financial instruments. The accounting rules are specified in Finansinspektionen's instructions and general guidelines on annual accounts in credit institutions and securities companies¹⁹. The fiscal treatment of financial instruments is specified in Chapter 44, Sections 9 and 29 of the Income Tax Act (1999:1229). For tax purposes, repos are considered a sale and a subsequent repurchase, and it is consequently subject to taxation, while any capital gain from trading in borrowed shares is only taxable when the loan against the shares is repaid.

As securities lending is conducted OTC in Sweden, the details of securities lending transactions are specified in the individual contracts. In addition, the Swedish Securities Dealers Association has published guidelines for these transactions. The settlement ratio of 99.82 per cent (instructions) and 99.94 per cent (value) for the money market and 98.77 per cent (instructions) and 99.24 per cent (value) for the equity market in 2008 indicate that the participants are usually able to borrow the securities they need for settlement.

¹⁸ EuroCCP is a subsidiary of the American Depository Trust and Clearing Cooperation (DTCC)

¹⁹ See FFFS 2006:16 which refers to International Accounting Standards (IAS) 39 points 24-37.

- Finansinspektionen supervises the risk management of the individual institutions. This includes the handling of potential positions resulting from securities lending activities.

Recommendation 6: Central securities depositories (CSDs)

Securities should be immobilised and transferred by book entry in the CSD to the greatest extent possible.

Assessment

The Riksbank and Finansinspektionen assess recommendation 6 as observed.

Considerations

Swedish securities in the VPC system are dematerialised, and registration in VPC's system confers ownership rights. Foreign securities handled by the VPC system are also dematerialised. A small share of foreign securities is immobilised, i.e. represented by a global certificate being held elsewhere than with VPC. These are, however, transferable in the VPC system.

Description

All Swedish securities settled in VPC's system are dematerialised, which means that no share certificates, debt instruments or other equivalent written physical documents are issued. Accounting takes place at the time of settlement. Foreign securities handled by the VPC system are normally dematerialised. A very small share of foreign securities is immobilised, i.e. represented by a global certificate being held elsewhere.

VPC is at present the only central securities depository in Sweden. Under Swedish law, registration of a CSD account, known as VPC accounts in the VPC system, confers ownership rights.

Recommendation 7: Delivery versus payment (DvP)

CSDs should eliminate principal risk by linking securities transfers to funds transfers in a way that achieves delivery vs payment.

Assessment

The Riksbank and Finansinspektionen assess recommendation 7 as observed.

Considerations

All instructions related to a transaction involving payment in VPC's system are settled DvP. The system itself does not monitor the use of Free of Payment (FoP) transactions, so it is impossible to estimate how many of these may be related to actual transactions rather than pledges.

Description

All instructions related to a transaction involving payment in VPC's system are settled on a gross basis DvP. Delivery, the debiting of the seller's securities account and crediting of the buyer's account occur simultaneously. Both delivery and payment are irrevocable when the accounts have been debited and credited. These procedures provide a legally secure DvP which minimises principal risk for VPC's participants. VPC has no control over the procedures which participants use with their customers, and at that level the system itself does not provide DvP.

FoP transactions are useful in many ways, since they reflect an institution's internal securities operations or a pledging transaction. They may also reflect a transaction for which the securities leg is settled in the securities settlement system and the cash leg is settled in another way. Such a transaction would not be DvP. Consequently, FoP transactions could be an interesting indicator of transactions in a market which are not settled DvP. VPC does not monitor how participants use FoP transactions in its system. Rules and procedures for DvP can be found in VPC's General Terms and Conditions.

Recommendation 8: Timing of settlement finality

Final settlement should occur no later than the end of the settlement day. Intraday or real time finality should be provided where necessary to reduce risks.

Assessment

The Riksbank and Finansinspektionen assess recommendation 8 as observed.

Considerations

Settlement is final at three stipulated times per day for transactions included in equity market settlement and four stipulated times per day for transactions included in money market settlement. This, together with clear conditions and the real time gross settlement functionality, guarantees that participants can obtain the proceeds of settlement when they are needed and reuse them during the day.

Description

VPC's rules clearly define the concept of settlement finality as well as the timing of irrevocability and finality of transactions. Instructions become unilaterally irrevocable when they are matched for settlement. The next step in transaction processing is the control process. In this process the system checks that there are sufficient liquid assets and securities in participants' accounts to cover the transactions. When the instructions have been controlled, the liquidity and securities to settle the instructions are blocked and the instructions are marked ready for settlement. At this point, they will be settled in the next settlement batch even if one of the parties to the transaction is declared bankrupt. The transactions are final when settlement occurs. The settlement banks may transfer the proceeds of settlement to their ordinary central bank accounts in conjunction with each of the specified settlement cycles. There are three such cycles for the equity market and four for the money market. With four settlement cycles for the money market and three for the equity market per day, along with the technical netting functions, the system allows securities and proceeds to be reused during the day.

Participants can also choose a RTGS procedure if immediate settlement is necessary. However, normally they use the standard settlement cycles. Technically the VPC system can offer continuous settlement. This option was offered to the market participants while the system was being configured. However, they decided that the transition to a continuous settlement system would be far too costly. VPC has discussed increasing the number of settlement cycles or moving to continuous settlement, but market participants are at present satisfied with the current timing of settlement finality. Should participants need real time settlement, they can use the RTGS functionality.

VPC does not receive provisional transfers of securities from other CSDs nor does it deliver provisionally to other CSDs through its links.

■ 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, at 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

Settlement in the VPC system takes place on a gross basis. VPC extends intraday credit on behalf of the Riksbank, but since VPC does not provide any credit in connection with settlement recommendation 9 is not applicable to VPC.

Description

VPC does not act as principal or in any way extend credit to participants. VPC's settlement system is designed to completely eliminate any implicit credit extension by requiring that the securities and cash needed for each individual transaction be blocked before the transaction is marked ready for settlement. After the control and blocking of securities and cash, the transaction is guaranteed to be settled even if one of the counterparties is declared bankrupt. VPC does not allow overdrafts either for securities or cash.

Participants still run counterparty risk in the form of replacement cost risk (though not credit risk) since their transactions may not be marked as ready for settlement if their counterparty does not fulfil its obligations. This risk is a bilateral risk and will not stop the settlement process.

Recommendation 10: Cash settlement assets

Assets used to settle the ultimate 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 members from potential losses and liquidity pressures arising from the failure of the cash settlement agents whose assets are used for that purpose.

Assessment

The Riksbank and Finansinspektionen assess recommendation 10 as observed.

Considerations

The cash leg of transactions between different settlement banks in VPC's system is settled in central bank money. Settlement in SEK takes place in special Riksbank accounts administered by VPC,²⁰ while settlement in EUR goes via the Target 2 system and Suomen Pankki. The participants which are not members of the RIX system or the Target 2 system employ a settlement bank for their cash management. Settlement between participants which are not settlement banks takes place via the accounts of the commercial banks which act as settlement banks.²¹

Comment

There are nine participants in SEK which act as settlement banks in the VPC system. As a result of this, exposures to settlement banks are concentrated and contagion risk is great. To be a settlement

²⁰ For a description of VPC's administration of these accounts and the rights and obligations of both parties, see the contract between the Riksbank and VPC at www.riksbank.se.

²¹ There are eleven settlement banks in the VPC system: nine commercial banks, the Riksbank and the Swedish National Debt Office.

bank in SEK, the institution must be a member of the Riksbank's large value settlement system, RIX. Currently the cost levels in the RIX system mean that high settlement volumes are necessary before a bank is able to act as a settlement bank.

Description

In SEK, settlement banks have special central bank liquidity accounts and associated credit accounts. Even though VPC administers these accounts, the Riksbank is fully liable for them. In the cash leg of securities transactions, settlement banks have neither a financial nor an operational exposure to the settlement system.

One of the conditions set by the Riksbank for allowing its accounts to be used by the settlement system is that the settlement system must provide the Riksbank with continuous real time information on the balances in these accounts. This makes it possible for the Riksbank to reconstruct the accounts should the securities settlement system suffer an operational disturbance. As soon as settlement occurs, all balances can be transferred back to RIX, the Riksbank's regular central payment system. Collateralisation of credits related to settlement is possible using the collateral accounts and the credit accounts administered by VPC and associated with the central bank liquidity accounts. The RIX system was found for the most part to observe the requirements of the Core Principles for Systemically Important Payment Systems (CPSIPS) in an IMF Financial Sector Assessment Program (FSAP)²² and in the assessment carried out by the Riksbank. The results of the Riksbank's assessment can be obtained from www.riksbank.se.

Since the Riksbank does not offer settlement in EUR, the VPC has resolved this by becoming a member of Target 2 via Suomen Pankki and obtaining access to EUR by this means. To settle EUR payments, settlement banks transfer funds into VPC's account with Suomen Pankki. VPC's legal experts have considered the support provided in Finnish law and VPC's agreement with Suomen Pankki and find that these support the separation of client funds in client accounts, so the settlement banks do not run any credit risk in relation to VPC. Each settlement bank's deposits into that account are mirrored in cash settlement accounts in the VPC system. Settlement takes place via these cash settlement accounts, and the proceeds are then transferred from VPC's account with Suomen Pankki into each settlement bank's central bank account. Thus the routines are basically the same in Sweden and Finland, but the legal status of accounts in the VPC system is different.

All participants in the VPC system that also participate in the relevant central bank's large value settlement system and fulfil VPC's requirements can become settlement banks. In Sweden's case, this entails membership of RIX. There are currently nine commercial banks acting as settlement banks in SEK and seven as settlement banks in EUR. In SEK, five of the settlement banks are responsible for 97 per cent of the central bank liquidity used in the system. Because of this, exposures to these banks are large and entail a concentration risk. However, the settlement banks are supervised by the financial supervisory authorities in their home countries, and once a bank has been accepted as a settlement bank, VPC continues to monitor its eligibility. Currently, high settlement volumes are necessary before it is financially possible for a bank to become a settlement bank, since the cost level of participating in RIX is so high.

The proceeds of settlement in both SEK and EUR are available for reuse within the VPC system immediately after a transaction has been checked and marked ready for settlement. Participants that make use of settlement banks must come to an agreement with their settlement bank on the time at which their cash will be available. Settlement banks in the VPC system must wait for settlement to occur at specific settlement times for their liquid assets to be available outside of the system. A move to more frequent settlement batches would decrease the amount of time settlement banks would

²² 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, August 2002, see www.imf.org.

- need to wait for their liquid assets. The settlement banks, however, have been satisfied with the current frequency of settlement cycles.

Recommendation 11: Operational reliability

Sources of operational risk arising in the clearing and settlement process should be identified and minimised through the development of appropriate systems, controls and procedures. Systems should be reliable and secure, and have adequate, scalable capacity. Contingency plans and back up facilities should be established to allow for timely recovery of operations and completion of the settlement process.

Assessment

The Riksbank and Finansinspektionen assess recommendation 11 as observed.

Considerations

VPC has procedures to identify, monitor and manage operational risk. These involve contingency plans and appropriate back up systems. VPC has an independent function to follow up operational risks which reports directly to senior management, providing them with regular information on the operational status of the system.

VPC's contingency plans are tested regularly, and some participants are involved in the tests. VPC has considered situations in which it has no access to computer systems and has informed participants how such situations should be managed.

In 2008 VPC's internal audit unit examined the incident management procedures in the company. The outcome of this audit was that the procedures for incident management were deemed to be satisfactory.

In 2008 VPC's system availability was 100.00 per cent.

Description

Each year a risk evaluation of all VPC business areas is made. Another important part of the work on operational risk is that VPC also follows up previous operational incidents to try to obtain a picture of underlying risks.

VPC has a separate risk management function which employs a well defined process for identifying and managing operational risks in business processes, the technical infrastructure, IT systems and VPC's projects.

The assignments of the risk management function include:

- drawing up policies, guidelines and instructions
- assisting the organisation to implement risk analyses,
- supervising the development of international standards,
- responsibility for insurance policies,
- investigating and reporting incidents and risks to the management,
- working with security awareness,
- co ordinating contingency plans and tests and

- co ordinating VPC's crisis management functions

The risk management function is not placed within a specific business area; it reports directly to the CEO of VPC. Every year a risk inventory is made in which each business area identifies and ranks its own operational risks. These risks are summarised and presented to the management together with suggestions for risk mitigation. The risk management function also reviews VPC's operational risk management procedures and an external audit is performed every year.

VPC's technical systems are the source of most of the identified operational risks. These risks are included in the process described above but are also managed in other ways. Special risk assessments are carried out for any change in the technical system. At least two audits of the IT system and its security are performed each year, one by external auditors. The internal audit unit also conducts IT audits. Any resulting recommendations are reported directly to management and the board. Management also regularly monitors key indicators of operational reliability such as availability and response times. VPC uses the ISO 27002 standard²³ as a reference framework and considers that it complies with the standards that are relevant to its operations. External expert advice has been obtained to assess VPC's level of information security. The assessment was that VPC has a high standard of information security and is considered to fulfil the ISO 27002 requirements and other recognised *best practices* for information management. However, VPC is not certified according to ISO 27002. There are few CSDs internationally which are certified according to ISO 27002.

VPC has developed contingency plans to handle the operational risks which it has identified. They encompass local disturbances as well as widespread disasters²⁴ and are managed with the help of a second site with an independent infrastructure at a suitable distance from VPC's main site, as well as a third backup processing site. Both the plans and the sites are tested regularly, at least twice a year, and they are updated as needed or at least once a year. The tests also involve some participants. The plan requires that operations can be re-established within two hours in the event of a disaster and one hour in the event of a disturbance of a simpler nature. VPC keeps an inventory of the infrastructure providers it uses and monitors these providers and VPC's dependence on them.

In addition, VPC has considered how it would handle a situation in which its computer systems are unavailable. VPC also requires that participants maintain a record of their transactions so that they can recreate them if VPC's system should fail. Activities related to this requirement are followed up at VPC's bilateral meetings with participants. VPC also has a manual process to empty the liquidity accounts that it holds for the Riksbank. This process is tested regularly with the Riksbank and a number of participants.

VPC helps participants choose a communications solution with sufficient capacity and monitors traffic to see whether updates are required. On its premises, VPC offers its participants reserve workstations and alternative means of entering transactions, such as bringing a USB memory stick with transaction data.

All data are continuously copied to two separate operating centres as soon as they are received or generated by the VPC system. Message integrity, which means that no one can change a transaction once it has been entered into the system, is checked both where the transactions are handled and in the database. In addition, there are transaction logging mechanisms at several points in the transaction chain.

In 2008 an internal audit was conducted of the incident handling procedures with the help of external expertise. This was initiated by the internal audit unit. The most recent annual assessment of VPC's operational risks was conducted in spring 2008.

VPC measures availability as the percentage of time the system is available to a majority of users during its opening hours, which are 7.00 – 21.00. In 2008 availability was 100.00 per cent, i.e. the year proceeded entirely without disruption.

²³ ISO 27002 replaced ISO 17799.

²⁴ One example of a widespread disaster is the events in New York on 11 September 2001.

- Capacity and transaction volumes are monitored both on a daily and weekly basis. To estimate maximum capacity, stress tests are performed in a test environment. In addition, VPC has adopted a licensing model with its supplier of computing capacity to allow VPC to increase its computing capacity in real time with the use of license keys. The function has been used on a couple of occasions in 2008.

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 a custodian's creditors.

Assessment

The Riksbank and Finansinspektionen assess recommendation 12 as observed.

Considerations

Assessment under this recommendation is based on legislation and the regulatory framework governing the protection of customers' securities and not the actual procedures of individual institutions. Swedish legislation supports the segregation of customers' securities, and this is backed up by the supervisory authority's regulations. Entities holding securities in custody are subject to supervision by Finansinspektionen.

Description

The Financial Instruments Accounts Act (Chapter 3, Section 2) specifies which legal entities may be accepted as account operators by a CSD. These include central banks, other clearing organisations, other CSDs and institutions engaged in securities operations under the supervision of Finansinspektionen. In practice, all financial institutions acting on behalf of others in the CSD are under the supervision of a relevant competent authority.

Under Chapter 8, Section 34 of the Securities Market Act (2007:528) a securities institution must hold a customer's financial instruments segregated from the assets of the institution, unless the customer has expressly consented otherwise. This is explained in detail in Chapter 10, Section 2 of Finansinspektionen's regulation FFFS 2007:16. Thus the legislation supports the segregation of customer assets, and they are in this way also protected in the case of a custodian's bankruptcy. In addition, all customers have the option of registering their securities either with a custodian or directly in an account with VPC through an account operator.

Finansinspektionen supervises the financial institutions. If an investor sustains a loss of its financial instruments and assets with, for example, a securities institution, due to the custodian committing fraud and not honouring the segregation of assets obligation, it is the Investor Compensation Act (1999:158) that ultimately protects each customer's assets up to SEK 250 000.

Recommendation 13: Governance

Governance arrangements for CSDs and CCPs should be designed to fulfil public interest requirements and to promote the objectives of owners and users.

Assessment

The Riksbank and Finansinspektionen assess recommendation 13 as observed.

■ Considerations

VPC publishes information about its governance in both its annual report and its Disclosure Framework²⁵. The names and experience of the board members are mentioned in these publications and on the website. VPC publishes major decisions of the board and informs participants of the relevant decisions. Changes in rules and procedures are worked out with input from participant groups. VPC welcomes suggestions from participants and handles them in a transparent way. Information on all projects and on important plans for the system are presented at participants' meetings and the minutes of these meetings are published. An important factor for the 2009 assessment is how the Euroclear transaction will affect the management structure in the future.

Description

Since December 2006 VPC has been owned by NCS Holding. In September 2008 Finansinspektionen decided to approve Euroclear's application for assessment of its suitability as owner and grant the company permission to indirectly acquire VPC, through a direct acquisition of 100 per cent of the shares in NCS Holding. The transaction was completed on 31 October 2008. Euroclear was already operating on the Belgian, Dutch, French, British and Irish markets.²⁶

Euroclear is a user owned market infrastructure provider, which is common among CSDs.²⁷ Euroclear has about two hundred owners, mostly banks, which are thus also users. SEB, Nordea and SHB are represented among these two hundred or so owners. SEB is one of Euroclear's largest owners, with about a three per cent shareholding. Thus, Euroclear's owners hold quite small shares individually.

Until 2011, when it is planned to migrate VPC to Euroclear's new shared platform, VPC will retain its present IT system.²⁸ There will therefore be some overlapping of functions until the introduction of the shared platform.

The public interest aspects of securities settlement are also supported in Swedish legislation, namely by the Securities Markets Act, under which all exchanges and clearing organisations must conduct business in a way which maintains public confidence in the securities market and ensures that private individuals' capital is not exposed to inappropriate risks. Moreover, securities settlement institutions must meet the security requirements associated with sound business practices.

Euroclear's policy is to establish market advisory committees (MAC) in all the countries in which it operates. In January 2009 market advisory committees were set up in both Sweden and Finland. These committees are the most important channel for Euroclear to identify users' wishes and receive their views on important matters in the respective local markets. The members of the committees represent users, including the authorities that are active in the market. The committee chair is one of the user representatives. Members of Euroclear's senior management participate in the committee meetings.

Apart from the supervisory authority's fitness test, VPC's management is overseen by its board. Under the Companies Act (2005:551) a board member is obliged to be loyal to the company (duty of loyalty), which means that the board member should not represent specific shareholders or interest groups.

Information in English and Swedish on VPC's management, objectives and organisation structure can be found on its website. VPC's overall objectives are regularly reviewed and can be changed at the

²⁵ The Disclosure Framework is a questionnaire giving a common set of answers to the questions that market participants may have concerning CSDs. The questionnaire is based on the CPSS/IOSCO's Disclosure Framework for Securities Settlement Systems and has been drawn up by the European Central Securities Depository Association (ECSDA). The full document can be found at http://www.ncsd.eu/files/ECSDA_DF_070528_final.pdf.

²⁶ For more information, see euroclear.com.

²⁷ VPC is also user owned.

²⁸ The shared platform will enable all Euroclear CSDs to settle cross border transactions as though they were domestic, at domestic prices, with counterparties in seven European markets.

board's annual strategy meeting. The board of VPC consists of seven members; the Chief Executive Officers of VPC and APK OY respectively, one representative of Euroclear, one person independent of the Euroclear Group, the former Chief Executive Officer of VPC (the chairman of the board) and two employee representatives. This information and the names of the members can be found on VPC's website.

Recommendation 14: Access

CSDs and CCPs should have objective and publicly disclosed criteria for participation that permit fair and open access.

Assessment

The Riksbank and Finansinspektionen assess recommendation 14 as observed.

Considerations

The criteria for participating in the VPC system are objective in that they focus on characteristics which participants must have so that they do not cause disturbances in the settlement process. The criteria are clearly stated in VPC's rules and regulations, which can be found on the VPC website. The criteria for VPC's termination procedures are stated in VPC's General Terms and Conditions.

Description

The Securities Market Act and the Financial Instruments Accounts Act require that clearing organisations and CSDs have fair and open criteria for membership. The criteria for participation in VPC's settlement system include: suitable management, sufficient capital, risk management organisation to cover any contingencies which may arise in connection with securities settlement, and technical capacity to function in VPC's system. VPC has harmonised the Swedish and Finnish procedures for applying for membership and the application instructions themselves. In that way the process has become more transparent for participants that want to participate in an additional market.

VPC's General Terms and Conditions state procedures for the termination of membership. VPC may not unilaterally exclude a participant from the system, unless the participant has defaulted or is otherwise in contravention of the system rules. VPC has designated a contact person for help with any problems or dissatisfaction with the application or existing processes.

Recommendation 15: Efficiency

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

Assessment

The Riksbank and Finansinspektionen assess recommendation 15 as observed.

Considerations

IT costs are a major part of VPC's costs. These costs are reviewed regularly, and special studies have been carried out by external experts. VPC meets with members individually and at regular members' meetings. Members have the opportunity to make suggestions and give information about how satisfied they are with VPC's services between regular surveys. Moreover, the banks are satisfied with

the system for settlement cycles and neither need nor wish the current system changed. Interviews carried out by the Riksbank and Finansinspektionen in 2006 found the participants to be generally satisfied with the service they received and very satisfied with the system's technical reliability. VPC tests its capacity, and availability has consistently been very high.

Description

The VPC system is subject to regular internal reviews of its pricing and costs. Where possible, VPC benchmarks its IT costs, the largest cost item, against the costs of other suppliers of IT services. Increased cost effectiveness has also resulted in a number of price reductions for participants in recent years. VPC also benchmarks prices against other CSDs in the Nordic countries and the rest of Europe. This shows that VPC has competitive prices. It has, however, proved to be difficult both for VPC in its analyses and for the Riksbank and Finansinspektionen in their assessment to perform any meaningful cost and price comparisons with other CSDs due to differences in pricing strategy, services offered and market size.

The VPC system uses customer surveys, members' meetings and visits to monitor customer satisfaction.²⁹ The Riksbank's and Finansinspektionen's interviews with participants, which were conducted in 2006,³⁰ indicate that they are generally satisfied with the services offered by VPC and very satisfied with the technical reliability of the system. Participants are able to offer suggestions for new services or adaptations of old services and receive information on how VPC handles them. Each participant suggestion is given a number so that customers can follow the handling of their suggestions. VPC also monitors operational reliability and capacity.³¹

The actual settlement method entails blocking the liquid assets needed and holding them in the system until it is time for settlement. Settlement takes place at three separate times during the day for equity market transactions and four times a day for money market transactions. The VPC system was designed to provide continuous gross settlement, but provides separate settlement cycles to cater to the wishes of its participants. When this settlement procedure was introduced, the Riksbank pointed out that the use of batch settlement cycles instead of real time settlement could lock liquidity into the system, which is not the case in the event of continuous gross settlement. The system has been in use since 2003 and the participants are satisfied with the current number and timing of settlement cycles. They have chosen to input large amounts of liquidity into the system enough to enable most transactions to be settled in the first settlement cycle of the day. For the money market the first settlement is at 8.00. This means that most of the liquidity transferred into the system is used and can be retransferred into the large value settlement system shortly after 8.00, so that banks have access to this liquidity for most of the banking day.

Recommendation 16: Communications procedures and standards

Securities settlement systems should use the international communications procedures or standards in order to facilitate efficient settlement of cross border transactions.

Assessment

The Riksbank and Finansinspektionen assess recommendation 16 as observed.

Considerations

VPC offers international message standards and international communications networks.

²⁹ In VPC's case the customers are participants in the system.

³⁰ In 2006, ten of the participants in the VPC system were asked what they thought of VPC and how VPC's services worked. These interviews are planned for every third year in connection with the assessment of VPC.

³¹ See recommendation 11.

■ Description

VPC offers both a proprietary interface and an ISO 15022 interface for messages and communication. On 5 April 2004 VPC introduced the opportunity to use ISO 15022 message standards both via a proprietary communications network and via SWIFT.

Recommendation 17: Transparency

CSDs and CCPs should provide market participants with sufficient information for them to identify and evaluate the risks and costs associated with using the CSD or CCP services.

Assessment

The Riksbank and Finansinspektionen assess recommendation 17 as observed.

Considerations

VPC provides the public with information about the costs of its various services, availability and percentage of transactions settled on time. This information makes it possible to assess the risks and costs associated with the system. Regularly updated information is available in English and in most cases also in Swedish.

Description

VPC informs its users of the risks and costs associated with using its services. VPC's General Terms and Conditions for Account Operation and Clearing, which are published on the public website, alert participants to the risk that their transaction might not be settled if their counterparty does not fulfil its obligations. The publication of statistics showing failed transactions also contributes to this awareness. Information on failed transactions, including the participants responsible and the securities, is available to VPC's participants on the restricted part of VPC's website.

As regards the Code of Conduct, in 2008 the yearly report on price transparency and availability was submitted to the European Commission. As regards service arrangements and separation of accounts, the first report will be submitted in spring 2009, referring to the situation as at 31 December 2008. This will specify income and costs by service. This information will be examined by the company's external auditors before it is reported to Finansinspektionen.

Participants can obtain certain information on operational risk from VPC's availability statistics and disturbance reports published on the public website and presented at members' meetings. VPC has also responded to the ECSDA Disclosure Framework³² that deals with risk management issues, including operational risk issues.

Participants can also obtain current information on system operations, previous operations information and information about planned system changes, as well as previously implemented system changes, both on the website and through the members' meetings.

Information on costs associated with joining VPC and ongoing costs for the various services can be found on the website in accordance with the Code of Conduct. This information is freely available in Swedish and is updated regularly.

³² The European Central Securities Depositories Association (ECSDA) drew up the Disclosure Framework, a joint questionnaire to answer the questions that market participants may have concerning CSDs.

Overall, the participants interviewed are satisfied with the information they receive from VPC. They consider VPC's price list and invoices to be clear, they receive information about disturbances and regulation changes in time, and they are satisfied with the members' meetings.

The Swedish VPC website address is www.euroclear.com where either Swedish or English can be selected as the language. Statistics and other country specific information are reported by country. The Group aspect, however, makes it more difficult to make a clear distinction between the organisational structure of the group and its legal structure.

Recommendation 18: Regulation and oversight

Securities settlement systems should be subject to transparent and effective regulation and oversight. Central banks and securities regulators should cooperate with each other and with other relevant authorities.

In this assessment the Riksbank and Finansinspektionen each account separately for their supervision and oversight undertaken in relation to the requirements set forth in recommendation 18.

The Riksbank and Finansinspektionen refrain from assessing their own work. The supervisory and oversight work of Swedish authorities was last evaluated in the IMF's Financial Sector Assessment (FSAP) of Sweden in 2002. At that time the IMF assessed that the requirements were partially observed. In its considerations the IMF argued that supervision needed to be developed and that the Riksbank's lack of legal powers constituted a weakness in oversight.³³

Finansinspektionen (the Swedish Financial Supervisory Authority)

Regulation and supervision

To run clearing operations an organisation is required to obtain authorisation under the Securities Market Act. VPC has been granted such authorisation by Finansinspektionen, which is also the supervisory authority. For the purposes of supervision, Finansinspektionen is entitled to demand the requisite information from VPC and others. Finansinspektionen also has the right to perform on site inspections. Should VPC not comply with the requirements in place for running clearing operations, Finansinspektionen has the right to withdraw its authorisation, meaning that the operations must cease. Finansinspektionen's powers are set forth in the Securities Market Act. In addition to the company granted authorisation for clearing operations, regulation includes the clearing participants.³⁴

The supervision of exchanges and clearing organisations is carried out primarily by a supervisory group of three persons in the Market Conduct Department. The granting of authorisation is handled by the Legal Department. Questions related to supervision and the analysis of specific risk areas are handled by the Prudential Supervision Department, whose analyses follow the current supervisory plan.

Objectives of supervision

Finansinspektionen is an authority responsible for supervising financial markets, marketplaces and financial companies. The overarching objectives are to promote stability and efficiency in the financial

³³ 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, item 55, p. 23.

³⁴ Participants that participate in clearing operations on behalf of others are required to be either financial institutions under the supervision of Finansinspektionen or foreign companies under the supervision of a relevant competent authority in their home countries. Clearing participants that participate in clearing operations solely on their own behalf and that are not under the supervision of Finansinspektionen or a relevant competent authority in their home countries must provide information upon the request of Finansinspektionen on conditions that concern participation in clearing operations.

■ system as well as to ensure good consumer protection. To achieve these objectives, Finansinspektionen draws up rules for financial operations, grants authorisation, carries out supervision and analyses changes in the financial environment. Companies subject to the supervision of Finansinspektionen include banks and other credit institutions, securities companies, UCITS, exchanges, clearing organisations and insurance companies.

Risks in the financial sector are not distributed equally, since companies differ in size and type. Consequently, Finansinspektionen employs a supervisory strategy in which a two stage risk analysis is carried out:

- First, financial institutions are categorised according to their significance in the financial markets. Both the activities and size of the institutions are taken into consideration.
- Second, the probability that the institutions will experience disturbance is calculated, taking into account contagion risks, for example. Then the institutions are divided into four categories based on their size and activities. Finansinspektionen's assessment of the existence of any acute problems or more long term risks of disturbance then determines the intensity of supervision and the analysis and supervisory initiatives to be undertaken.

The institutions with the highest priority are currently the four major banking groups, Nasdaq OMX Stockholm and VPC. Each of these is deemed to have considerable influence on the financial markets and therefore subjected to more extensive examination and supervisory measures.

Finansinspektionen's overall objectives and business focus are reflected in its annual report and business focus document. These and other documents can be downloaded from the website (www.fi.se). Other supervisory reports, such as the annual report on the stability of the Swedish financial sector are also available on the website. The report "Risks in Clearing and Settlement" (FI Reg. No. 02 3436 000) describes the settlement risks in systemically important institutions, how such systems are supervised, and how they should be supervised in the future to ensure compliance with regulations and international standards. The division of roles between Finansinspektionen and the Riksbank is also discussed.

Regular reporting

Finansinspektionen meets regularly with representatives of VPC to go through all changes in operations according to a fixed agenda which includes changes in products and services, organisation, systems and regulatory framework. VPC reports financial information on a quarterly basis to Finansinspektionen. In accordance with Finansinspektionen's general guidelines, significant events, such as VPC not being able to fulfil its obligations towards customers or errors in technical systems, must be reported. The reporting obligation for outsourced activities lies with VPC. One condition for outsourcing is that there is full transparency for Finansinspektionen through VPC.

International co operation

Finansinspektionen and its Finnish counterpart, Rahoitustarkastus, have entered into a Memorandum of Understanding on cooperation in the field of supervision of VPC. The purpose of the MoU is to guarantee effective and integrated supervision, and it was signed in September 2006.

The registered office of the parent company in the Euroclear group is in Belgium. Consequently, the Belgian supervisory authority, Commission Bancaire Financière et des Assurances (CBFA) is the coordinating authority for supervisory issues concerning Euroclear. However, VPC will continue to be a Swedish company subject to Swedish law and the supervision of Finansinspektionen. Finansinspektionen has established cooperation with the Belgian supervisory authority and will shortly enter into a Memorandum of Understanding (MoU) with other supervisory authorities and central banks concerning supervision and oversight of Euroclear.

■ The Riksbank

There are three aspects to the Riksbank's relation to VPC. Through VPC's account in RIX the cash leg of transactions denominated in SEK between settlement banks is settled in central bank money. The Riksbank is also a member of the VPC system and uses VPC to hold securities pledged as collateral for intraday credits in RIX. In addition, the Riksbank oversees the VPC system.

Oversight

The basis for the Riksbank's oversight role can be found in the Sveriges Riksbank Act³⁵ under which the Riksbank is given the responsibility of promoting a safe and efficient payments system. The Riksbank must also provide emergency liquidity assistance, which is liquidity in the form of credit on special terms. The Sveriges Riksbank Act gives the Riksbank the right to collect such information from institutions as it deems necessary to carry out its oversight work.

Based on the responsibility specified by the Sveriges Riksbank Act, the Riksbank has identified two major objectives. The Riksbank must work to minimise the risk of a crisis in the Swedish financial system, thereby decreasing the risk of needing to assist institutions with emergency liquidity assistance. If a crisis should nevertheless occur, the Riksbank must also have the capacity to manage it at as low a cost as possible; in other words, have a satisfactory crisis management capability.

A central component of reducing the risk of a financial crisis is the Riksbank's oversight of the systemically important financial infrastructure. The basis of this oversight is an analysis of the risks which arise in the clearing and settling of payments and securities transactions. In its oversight work the Riksbank identifies the extent to which these risks have been handled by market practices, or through the formulation of rules and procedures or the technical systems. If the Riksbank identifies a shortfall in risk management, it tries to initiate a change or an investigation as to which measures should be taken. However, the Riksbank has no legal powers to require that the market participants take action. Instead, the Riksbank tries to persuade market participants to act by using moral suasion.³⁶ Two expressions of this are the publication of the assessments and the presentation of the results of the Riksbank's oversight work in its *Financial Stability Report*.

The Riksbank has determined that VPC is systemically important because the values settled in the VPC system are large and the securities settled are used as collateral in RIX. Hence disturbances in VPC's operations could spread to other institutions and other parts of the payment system. Moreover, the VPC system is the only entity in the Swedish market to offer services as a CSD and for settling securities. In other words, there is no alternative to the VPC system. The Riksbank therefore conducts regular oversight of the VPC system and annually assesses it against the CPSS IOSCO *Recommendations for Securities Settlement Systems*.

In the oversight of VPC, the Riksbank works to assess whether VPC has procedures and routines that minimise settlement risks. Assessing the VPC system against the CPSS ISOCO recommendations plays an important role in this evaluation. Should a crisis arise in the Swedish markets, the Riksbank will work to minimise the resulting cost. A crucial element in reducing the costs of crisis management is an accurate analysis of the crisis situation. Understanding the VPC system and the risks involved in using it is vital for a crisis analysis.

At the Riksbank, oversight of the financial infrastructure is carried out in the Financial Infrastructure Division in the Financial Stability Department. Nine people work in the division, of whom three work with clearing and settlement issues. The Riksbank also has at its disposal specialist knowledge in the areas of risk management, law and IT.

³⁵ Sveriges Riksbank Act (1988:1385).

³⁶ "Moral suasion" uses informal means rather than formal compulsory measures.

■ The Riksbank published a general description of its role in 1995.³⁷ A presentation of the Riksbank's viewpoint on its assignment was published in 1997³⁸ and a description of its role as a watchdog was published in 2001.³⁹ These publications, as well as speeches and consultation responses concerning financial markets are also published on the Riksbank website. The complete assessment of VPC is also available on the Riksbank website.

Collection of information

Under the Sveriges Riksbank Act, the Riksbank is entitled to obtain all information it deems necessary to be able to perform its assignment. The Riksbank uses the following to collect information:

- Quarterly meetings at which representatives of the Riksbank meet representatives of VPC to discuss VPC's operations. These meetings focus on VPC's operations, system operations and risk management.
- The annual assessment of VPC in accordance with international standards, which entails VPC annually updating the information provided to the Riksbank for this purpose.

The Riksbank is also actively involved in gathering statistics and information for various purposes in connection with its international work.

International cooperation

The Riksbank and the central bank of Finland, Suomen Pankki, for a period have had an agreement on cooperation in the oversight of VPC and its Finnish counterpart APK. The two CSDs made up the NCSD Group.⁴⁰ The two central banks' cooperation was put on hold after Euroclear's takeover of VPC and APK.

Since Euroclear's headquarters are in Belgium, the Belgian central bank (NBB) leads the oversight cooperation for the shared issues within the Euroclear group, in which the central banks and supervisory authorities of the countries concerned take part.⁴¹ The Riksbank has established cooperation with the NBB and will shortly enter into a Memorandum of Understanding (MoU) with other supervisory authorities and central banks concerning supervision and oversight of Euroclear.

Recommendation 19: Risks in cross border links

CSDs that establish links to settle cross border trades should design and operate such links to reduce effectively the risks associated with cross border settlements.

Assessment

The Riksbank and Finansinspektionen assess recommendation 19 as observed.

Considerations

Less than one per cent of VPC's transactions are processed through links. VPC has carried out a risk analysis of both its FoP and DvP links. The bulk of VPC's link business is FoP with no provisional transfers. This procedure involves little risk for VPC. A small share of its linked transactions is handled

³⁷ *Financial Markets Report 1995:1*

³⁸ *Financial Markets Report 1997:1*

³⁹ Martin Andersson, Gabriela Guibourg and Björn Segendorf, *The Riksbank's oversight of the financial infrastructure*, Economic Review, 2001:3

⁴⁰ Memorandum of Understanding between the Riksbank and Suomen Pankki on cooperation in the oversight of the Central Securities Depositories VPC AB and Suomen Arvopaperikeskus Oy, 18 January, 2006. See www.riksbank.se.

⁴¹ The countries whose central banks and financial supervisory authorities currently participate in the cooperation are Belgium, the Netherlands, France, the United Kingdom and Ireland.

■ with DvP links. VPC uses a settlement bank for its DvP links and is only exposed to settlement risk against custodian banks for transactions with American securities. This is the only direct risk the system runs. The amounts involved are very small and VPC regularly monitors its custodian banks, thus minimising the risks mentioned in this context.

Description

VPC operates links to other CSDs for two reasons: to facilitate the transfer of securities listed on more than one stock exchange and to handle foreign securities held in VPC service accounts. Service accounts are end user accounts which VPC provides in the VPC system on behalf of a participant. In 2008 VPC processed 7,600 instructions via links.

For securities listed on more than one exchange, VPC has established either direct or indirect FoP links. Direct FoP links have been established with VP A/S, the Danish CSD; CrestCo Ltd, the United Kingdom's CSD; APK Oy, the Finnish CSD and SIS AG (SegaInterSettle), the Swiss CSD. Indirect FoP links have been established with Denmark using Danske Bank, Finland using Nordea, Iceland using Handelsbanken, Norway using SIS and the United States using Brown Brothers Harriman and Company (BBH).

In connection with the service accounts, VPC has established DvP links for securities held in Euroclear and for securities held in the United States. For service account securities held in Euroclear, VPC has established a direct DvP link in commercial bank money. For the settlement of instructions over that link, VPC employs the service account customer to act as settlement bank, while VPC itself is a member of the securities settlement system. This means that the service account customer holds a cash account in its own name with Euroclear to cover the cash leg of its transactions. Should a service account customer not wish to act as settlement bank itself in Euroclear the customer would then be asked to use a settlement bank to handle the cash leg of the transactions. In that way it is the service account customer or the settlement bank that runs the credit risk for Euroclear, while VPC itself takes no settlement risk or other credit risk in operating this link.

To handle American equities for service accounts, there is an indirect DvP link via BBH. VPC is not a direct member of the settlement system but instead has a securities account with BBH. The service account customer has access to a cash account with BBH for the proceeds of securities transactions.

Cash distributions, such as dividends through the above mentioned links, are deposited into VPC's cash accounts. When a distribution is made to the cash account, VPC makes a foreign exchange transaction, transfers the funds and distributes them in SEK to the service account holders. VPC takes a credit risk on the Swedish bank for payments related to service account securities in Euroclear and on BBH for payments related to American securities until the dividend is credited to the service account holder. Thus, VPC runs a credit risk for cash distributions in connection with dividends, for example, but not for the cash used in securities settlements.

VPC has carried out risk analyses for these links with an emphasis on operational risks and contingency plans. VPC also monitors its settlement banks.

VPC does not allow provisional transfers. Customers are informed via VPC's website about how the links work and which custodian bank is used so that they can assess their risk in relation to the custodian bank when the links are used.

List of sources

Laws

Rights of Priority Act (1970:979)
Bankruptcy Act (1987:672)
Sveriges Riksbank Act (1988:1385)
Financial Instruments Trading Act (1991:980)
Financial Instruments Accounts Act (1998:1479)
Investor Compensation Act (1999:158)
Income Tax Act (1999:1229)
Act on Systems for Settlement of Obligations in the Financial Market (1999:1309)
Securities Market Act (2007:528)

Documentation

The Swedish Securities Dealers Association's rules governing trading in securities and settlement of transactions
Annual Report 2007
Application Instruction for Participation, VPC and APK
Clearing and Settlement in the VPC system
VPC Disclosure Framework, November 2008
General Terms and Conditions, Account Operation and Clearing
Price list, VPC
Special Resolution, Settlement Incentives, VPC
Special Resolution, Settlement Timetable, VPC
Financial Stability Report 2002:2, the Riksbank
Agreement between the Riksbank and VPC AB
Memorandum of Understanding between the Riksbank and Suomen Pankki on cooperation in the oversight of the Central Securities Depositories VPC AB and Suomen Arvopaperikeskus Oy, 18 January 2006
Memorandum of Understanding between Finansinspektionen and Rahoitustarkastus on cooperation in the supervision of the NCSD Group, September 2006
Clearing and Settlement Risks, Report of 24 October 2002, (FI Reg. No. 02 3436 000)
Committee on Payment and Settlement Systems and Technical Committee of the International Organisation of Securities Commissions, Recommendations for Securities Settlement Systems, BIS, November 2001
Committee on Payment and Settlement Systems and Technical Committee of the International Organization of Securities Commissions, 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
Committee on Payment and Settlement Systems, Core Principles for Systemically Important Payment 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 concerning payment and securities settlement systems
Directive 2002/47/EC of the European Parliament and of the Council 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.com

www.fi.se

www.riksbank.se

www.e24.se