CITY RESEARCH SERIES

NUMBER SEVEN

THE FUTURE OF CLEARING AND SETTLEMENT IN EUROPE

Bourse Consult

DECEMBER 2005

CORPORATION OF LONDON

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The Future of Clearing and Settlement in Europe is published by the Corporation of London. The authors of this report are Peter Cox, Hugh Simpson and Lynton Jones of Bourse Consult.

December 2005

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Foreword

Michael Snyder
Chairman, Policy and Resources Committee
Corporation of London

The Corporation's *City Research Series*, of which this report is the seventh publication in less than two years, is primarily concerned with the relationship between competitiveness and regulation. Its field of study is not just the City – the City is at the heart of international financial services, and our research is therefore concerned with how the business of finance is organised and regulated across Europe and indeed around the world. The vast number of transactions that flow through the City, in equities, in bonds and in derivative instruments, reaches across all borders, and the transactions themselves are often cleared and settled in very different jurisdictions from those in which they are originated and executed.

It is because of this that clearing and settlement, the processes by which risks are managed during trades, and by which cash and assets are exchanged to complete transactions, are critical to the competitiveness of both the City and the EU at large. Although there has been significant industry consolidation in recent years, and although clearing and settlement are now efficiently organised within individual markets, the European system still reflects its various separate national origins, and is thus not structured to reflect the demands of a single market. The first report in the *City Research Series* (*The Direct Costs of Clearing and Settlement: An EU-US Comparison*) proved just how great a competitive disadvantage the EU suffers relative to the USA as a result of higher clearing and settlement costs. This fact has been clearly recognised by the European Commission, and Commissioner Charlie McCreevy has recently made it clear that he sees progress in improving the effectiveness of clearing and settlement as a high priority for action.

We are therefore pleased to have been able to assemble a highly experienced team of researchers to analyse the complexities of the current situation and chart the most effective course forward. All three authors are former Chief Executives of trading institutions, Hugh Simpson of CREST, Peter Cox of OM London Exchange, and Lynton Jones of the IPE, of OMLX, and Nasdaq International. They have carried out a series of intensive interviews with key market participants and present an in-depth analysis of market and industry structures.

The key findings of the report are the establishment of a clear need on the clearing front for a consolidated European Central Counter Party, and in the legally more complex area of settlement of the importance of evolving standard market practices and messaging. Importantly, the authors conclude that a new European directive should only be considered as a facilitating mechanism in the last resort. National and European legislators can make a more immediate and more effective contribution by using existing powers to dismantle remaining Giovannini barriers, and by simplifying the regulation of clearing and settlement organisations operating on a pan-European basis. Equally importantly, the report argues that users of clearing and settlement must live up to their responsibilities: by making user governance of these market utilities work, by being actively involved in the development of harmonised standards, and by presenting a harmonised view of what is best for the industry.

The resolution of the problems which make European clearing and settlement more expensive and less competitive than the same services in the USA is one of the greatest challenges remaining in the quest to keep financial services at the forefront in pursuit of the Lisbon agenda. I recommend this report to all those concerned with keeping the City and Europe competitive, and look forward to working with policy makers and industry participants in developing an understanding of the challenges it addresses, and producing market-friendly solutions to them.

Michael Snyder
London
December 2005

Executive Summary

The purpose of this report is to contribute to the current debate on creating an efficient and integrated clearing and settlement infrastructure for Europe. It is based on a series of in-depth interviews with senior managers of banks, trade organisations, regulatory bodies, clearing houses and exchanges, market commentators, MEPs and EU officials in London, Amsterdam, Brussels, Frankfurt and Paris. It presents their views on the vision for the future of European clearing and settlement and the best way of achieving that vision.

The Views of the Stakeholders

The prime objective is to reduce the cost and complexity of clearing and settlement in Europe. There is a need to simplify systems and procedures and to gain economies of scale through consolidation. This would reduce the cost of connection to multiple clearing and settlement providers and would reduce transaction costs.

Most interviewees gave priority to the creation of a single European clearing house (or Central CounterParty - CCP), handling the trades from all the major markets. This would reduce the amount of capital users are required to commit to clearing. It should also be easier to achieve than the consolidation of settlement providers (Central Securities Depositories - CSDs), since CCPs are less driven by the particular procedures and legal regimes of national markets. However, there was concern that a consolidated CCP without Germany would fail to achieve its objectives.

Many interviewees thought that consolidation of settlement into a small number of regional groupings was as much as could be achieved and would in fact be a great improvement. There is support for the rationalisation project Euroclear is conducting, since, if successful, it is likely to show the way for harmonisation by other CSDs and for further industry consolidation. However, there continue to be doubts about the Euroclear group structure. There was concern about the absence of progress towards consolidation outside the Euroclear group and the Nordic countries.

Harmonisation of clearing and settlement practice in the markets concerned was seen as key both to reducing the cost and complexity of cross-border transactions and to facilitating the development of integrated systems in future. Although there was consistent agreement on the importance of achieving harmonisation and strong support for the work to develop standards and harmonised procedures, the poor commitment to widespread adoption of the standards was heavily criticised.

Two issues were consistently debated.

1. There was general agreement that the best way to maximise economies of scale is by **consolidation**, to create a single organisation that operates one set of systems with standard procedures, processing the greatest transaction volume. On the other hand there is also a shared belief that **competition** is the best mechanism for driving costs down and encouraging innovation. The reluctant view of the majority was that competition will have to be sacrificed in order to achieve the consolidation which will create significant economies of scale.

2. The majority view was that **exchanges should not control the post-trade process**. Ideally, clearing and settlement organisations should be not-for-profit utilities, owned by their users, but there was also a view that ensuring fair access to clearing and settlement for competing exchanges was as important as ownership. Effective user governance is difficult to achieve and many interviewees expressed dissatisfaction with the way it is operating in practice. There is therefore a desire to establish a significantly improved model for user governance.

The Way Forward

Clearing and settlement in Europe are likely to evolve along two separate paths in the next five years

The key challenge is the formation of a consolidated European CCP. It would reduce transaction costs and the amount of capital employed by users. It would also have a positive impact on the competitiveness of trading and settlement. It would allow users to switch trading venues more easily and would reduce the number of settlement transaction processed by CSDs, thereby encouraging them to improve efficiency.

The main benefits of a European CCP will come from consolidation of clearing for the biggest markets. The core of this concept, therefore, must be the bringing together of LCH.Clearnet and Eurex Clearing. Such a merger would challenge the current owners' belief in user ownership, since it would require significant investment to finance it, and would also send a strong signal to other exchanges aspiring to control vertically integrated structures.

The most important development for improving the cost and efficiency of cross-border settlement in Europe is the evolution of standard market practices and messaging. It is the key to gaining economies of scale from corporate consolidation. Even without mergers, however, if all the CSDs in Europe were operating according to common procedures and common connection standards the benefits in terms of cost reductions for users would be very considerable. There needs to be a concerted push to adopt common standards irrespective of the eventual corporate structure of the industry.

There has been debate on whether an EU directive would speed up the process of rationalisation. A significant minority believe that it would galvanise speedier action. **The majority, however, believe that an EU directive would be unlikely to help.** It would take considerable time for a directive to become law, there would be a danger of it gathering provisions that are unrelated and undesirable, and the authorities already have, in competition regulation, most of the powers necessary.

As the consolidation of clearing and settlement continues, many of the providers will become regional monopoly utilities. There is concern that the financial services regulatory system, which is based on separate national regulatory bodies sharing the regulation of multinationals, will become an increasingly cumbersome mechanism for regulating these organisations. **Competition regulation will need to become an increasingly prominent element of the regulatory mix.** A co-ordinated and more efficient regulatory structure will be needed for clearing and settlement in the future.

Conclusions

Progress is being made towards reducing the cost and complexity of European clearing and settlement but it is slower than many would hope for. A reform of this magnitude is bound to take time. The slow pace may be frustrating, but heavy-handed legislative action is likely to slow things down. Nevertheless, there are factors present that are unnecessarily inhibiting this process.

No-one can claim to know the right structure for an industry that needs to keep evolving in line with the needs of the markets. However, governments and market participants can act to remove the obstacles to evolution and create the most favourable conditions for a more rapid reform process. On the basis of the interviews conducted, it appears to us that a number of steps could be taken quite quickly, provided the will was there.

A. **The *National and European legislators* need to concentrate their energies precisely in those places where they can make an immediate difference (rather than waiting the five years or so that a directive would take to agree and implement):**

1. National governments should dismantle the remaining barriers identified by the Giovannini Committee that are within their control as quickly as possible.

2. The existence of vertically-integrated structures is an obstacle to rationalising the European post-trade infrastructure. Existing powers under competition law should be used to ensure that there is open and easy access to all parts of the trading, clearing and settlement chain. Over time non-adoption of industry standards by clearing and settlement organisations should be seen as a barrier to entry to their services.

3. The regulation of clearing and settlement organisations operating on a pan-European basis needs to be considerably simplified so that it supports the development of providers offering services across several countries. Wherever possible, this should be achieved by regulators using their existing powers, rather than waiting for new legislation.

B. **The users of clearing and settlement services must live up to their responsibilities:**

1. Users must make user governance work. There need to be stronger measures in place to ensure that clearing and settlement organisations operate in the interests of their customers, whether they are user-owned or shareholder-owned.

2. Users need to be actively involved in the development of harmonised standards for settlement. This activity needs to be owned and driven by users, as they ultimately will pay the price of the absence of standards or reap the benefits of harmonisation.

3. Users must find a way to present a united view of what they want. A European-wide industry body should be formed to formulate and represent the views of the industry as a whole and to provide drive and energy to the harmonisation and rationalisation effort. It should not only agree European standards for clearing and settlement processes and access methods but also have much more involvement in ensuring that they are adopted.

1. Introduction

1.1 The Importance of Clearing and Settlement to Europe's Economy

Capital markets play a vital role for society. They allocate financial savings to productive businesses. They reallocate risks from people who want to avoid them to people who are willing to take them. They do this through a process of constantly reassessing risks and opportunities and adjusting prices accordingly. This process works most effectively when markets are liquid – when participants can trade easily and prices are constantly being refreshed.

Post-trade processes – generally referred to as clearing and settlement (see Box 1 overleaf) – are a key part of the working of capital markets. When they are low-cost and efficient they contribute to the effectiveness of the market. When they are expensive or inefficient they inhibit the development of efficient markets. The value of the assets means that the safety, soundness and reliability of the systems through which they are held and transferred are vital.

Clearing and settlement in Europe show their origins in a patchwork of national systems. At the national level, they are generally efficient, sound and reliable, but lack the scale to bring their costs down to the lowest international levels. For cross-border transactions, however, clearing and settlement in Europe is neither efficient nor cheap. This holds back development of a truly European capital market.

Building a sound, efficient and integrated clearing and settlement infrastructure for Europe has been both an objective of market participants and a goal for official policy for several years. In April 2004 the EU Commission published a communication setting out its objective as the "achievement of an efficient, integrated and safe market for securities clearing and settlement".[1] More recently, in a widely-reported speech in September 2005, Commissioner McCreevy stated:

> The time has now come for all interested actors to take their responsibilities and collectively put their foot on the gas… The Commission is taking a close look at the economic case for action. We will decide whether any European legislation, or other intervention, is necessary on that basis and in the light of developments in the market. The next 6 months are crucial. As far as I am concerned, the clock is ticking.[2]

Improving the effectiveness of clearing and settlement in Europe is therefore clearly high on the list of priorities. Yet the way forward remains elusive.

[1] Commission of the European Communities, (April 2004), *Communication from the Commission to the Council and the European Parliament - Clearing and Settlement in the European Union - The Way Forward*, http://europa.eu.int/eur-lex/en/com/cnc/2004/com2004_0312en01.pdf

[2] McCreevy, C., European Commissioner for Internal Market and Services, (September 2005), Speech*: Fund Management – Regulation to Facilitate Competitiveness, Growth and Change,* http://europa.eu.int/rapid/pressReleasesAction.do?reference=SPEECH/05/503&format=PDF&aged=0&language=EN&guiLanguage=en

Box 1

What are clearing and settlement?

Clearing generally refers to processes for managing risks between a trade taking place and it being settled. These are undertaken by a *clearing house* or *central counterparty (CCP).*

Counterparty risk is the risk that one of the parties to a trade fails and is unable to complete the transaction, leaving the other party exposed to changes in market prices since it carried out the trade. This risk is managed by a CCP which steps in between the buyer and the seller as soon as possible after the trade is executed. If one party fails subsequently, it is the responsibility of the CCP to complete the trade. The CCP covers itself against this risk by collecting margin from the two parties. The amount required is calculated according to an algorithm based on historical volatilities and correlations of the prices of the assets being traded.

CCPs also frequently carry out *netting* of transactions. Thus, if a firm carries out many transactions in the same security or derivatives contract, these can all be netted to a single position, either delivering or receiving.

Clearing has historically been very important in derivative markets, where contracts may remain open for months or even years. Eliminating counterparty risk becomes important in these circumstances. Many derivative contracts are settled through payment of the cash value of the position rather than through delivery of the underlying asset, which is facilitated through netting. Clearing has become more important in securities markets in Europe with the introduction of electronic trading systems, where the anonymity of the participants is important.

Most of the firms that use clearing houses are either large trading firms themselves or firms, known as *General Clearing Members*, which provide access to the clearing house for smaller firms. As a result, there is relatively little direct contact between clearing houses and retail firms or end-investors.

Settlement generally refers to the exchange of cash and assets between buyers and sellers following a trade. For securities, it normally takes place through a *Central Securities Depository (CSD),* also known as a *Securities Settlement system (SSS).*

A CSD provides *Delivery versus Payment (DVP).* This means that the payment and transfer of ownership of the securities should be simultaneous, final and irrevocable. This eliminates the risk that one party could fail at a point when it is holding both cash and securities, leaving the other party out of pocket. CSDs also provide for the safekeeping of securities, generally in electronic form. As part of this service, they enable the holders of securities to receive the benefits of their holdings, such as income, and other entitlements, including the ability to take up rights issues and accept take-over offers.

Because of their function providing for the safekeeping of securities, a much wider range of organisations has a direct relationship with a CSD than is the case with a clearing house. Although some investors may be direct participants in a CSD themselves, in most cases they use a custodian to do this. As a result, the role of CSDs is not limited to settling stock exchange transactions. For example, securities held in CSDs are used as collateral to support the provision of liquidity by central banks. Since in many cases a national CSD provides the ultimate record of ownership for a nation's securities, each CSD has to operate within its country's framework of laws governing property ownership, often with deep historical roots.

There are two *International Central Securities Depositories (ICSDs),* Euroclear Bank and Clearstream International. Their specialist function is to provide for the safekeeping of international bonds, which are still issued as physical certificates. They are often direct or indirect members of national CSDs and in this respect offer similar services to custodian banks.

1.2 Object of Research, Structure and Methodology

The purpose of this report is to contribute to the public debate stimulated by Commissioner McCreevy's challenge. It presents an overview of the opinions of key participants in the market and official sectors, covering the outcome they would like to see, their views on the obstacles to achieving it and their suggestions for actions to overcome these obstacles. It addresses clearing and settlement in the principal European cash and derivative markets over the next five years.

The report is based on a series of in-depth interviews conducted in London, Amsterdam, Brussels, Frankfurt and Paris between July and October 2005. The interviewees included senior managers of investment banks, custodian banks, universal banks, trade organisations, regulatory bodies, clearing houses and exchanges, market commentators, MEPs and EU officials. All interviews were conducted on the basis of anonymity.

Since it is not possible to identify and thank everyone who contributed to this research, the authors would like to acknowledge the assistance they received from the many people who willingly gave their time to discuss the questions set out in the following pages.

2 The Story So Far

This introductory chapter considers three important trends: the move to integration of clearing and settlement systems; changes in the ownership of these systems; and developments in the pattern of trading activity. Finally, it briefly makes a comparison with the position in the United States. The chart on the following page gives an overview of the main organisations providing trading, clearing and settlement services in selected European markets.[3]

It remains true that the greater part of investment activity, especially by retail investors, continues to be conducted nationally. (It could be argued, of course, that one reason for this is the high cost of cross-border trading. This is certainly a factor in the thinking of those trying to create a single market in Europe.) This means that public authorities charged with investor protection justifiably have a national, rather than international, focus. Additionally, the transfer of ownership of equities provides governments with a convenient method of raising taxes, such as Stamp Duty. National regulators are unwilling to let go of the regulation of a central financial service which their regulated intermediaries use. Central banks are concerned about lack of clarity over responsibility for provision of lender of last resort facilities when a key piece of financial services infrastructure moves abroad.

This national focus is starting to change as a result of cross-border mergers. The take-over of Abbey PLC in the UK by Banco Santander of Spain resulted in 1.7 million individuals who were shareholders in Abbey becoming shareholders of a Spanish company. Cross-border mergers such as this have been facilitated by the links that have been put in place between national CSDs.

2.1 System Integration and Company Mergers

Over the past ten years, there has been a significant reduction in the number of post-trade systems in Europe. But this has happened at national, not European level. Systems have been merged within individual countries to the point where in most European countries there is now just one CSD for all securities and one clearing house (see Box 2).

Box 2

Examples of system integration in Europe

- In the United Kingdom, the separate CSDs for government bonds (CGO) and money-market instruments (CMO) have been merged into CREST, the CSD for corporate securities, in July 2000 and October 2003 respectively
- In Spain, the regional CSDs were merged to form Iberclear in April 2003
- In Italy, Monte Titoli, the equities CSD, assumed responsibility for settlement of government bonds in August 2000

[3] A comprehensive description of the clearing and settlement arrangements in all 25 EU member states can be found in the report commissioned from London Economics by DG Competition, *Securities Trading, Clearing, Central Counterparties and Settlement in EU 25 – An Overview of Current Arrangements*, June 2005,
http://europa.eu.int/comm/competition/general_info/securities/report_june_2005_en.pdf

Overview of principal financial market infrastructures in selected European countries

	Sweden	Finland	Norway	UK	France	Netherlands	Switzerland	Germany	Italy	Spain
Derivatives trading	**OMX** (also owns other Nordic and Baltic exchanges) (Quoted company)		**Oslo Børs** (Quoted Company)	**Euronext.LIFFE** (Owned by Euronext) **EDX** (Owned by London Stock Exchange and OMX)			**Eurex** (Owned equally by SWX and Deutsche Börse, but the latter has an 85% economic interest)		**IDEM** (Owned by Borsa Italiana)	**MEFF** (Owned by BME)
Cash equities trading				**London Stock Exchange** (Quoted company)	**Euronext** (Quoted company)		**SWX Swiss Exchange** (Owned by Swiss banks)	**Deutsche Börse** (Quoted company)	**Borsa Italiana** (Owned by banks and intermediaries)	**Bolsas y Mercados Españoles (BME)** (Owned by Spanish banks)
Clearing house	**OMX Clearing** (Derivatives only)		**NOS** (Derivatives only)	**LCH.Clearnet** (Owned 45% by users, 10% by Euroclear, 45% by exchanges, of which Euronext's voting rights are limited to 24.9%)			**x-clear** (Owned by SIS)	**Eurex Clearing** (Owned by Eurex)	**Cassa di Compensazione e Garanzia** (Owned by Borsa Italiana)	**MEFFCLEAR** (Owned by MEFF)
Settlement system	**NCSD** (formed when VPC in Sweden acquired APK in Finland) (Owned 19.8% by OMX, the rest by banks)		**VPS** (Quoted company)	**CREST** (Owned by Euroclear SA)	**Euroclear France** (Owned by Euroclear SA)	**Euroclear Nederland** (Owned by Euroclear SA)	**SIS SegaIntersettle** (Owned mainly by Swiss banks)	**Clearstream Banking Frankfurt** (Owned by Deutsche Börse	**Monte Titoli** (Owned by Borsa Italiana)	**Iberclear** (Owned by BME)

Key:

Owned by users	Owned by users but with plans for flotation	Publicly quoted companies and their subsidiaries

At the European level there have been company mergers. These have resulted in several groups that comprise clearing or settlement organisations in more than one country (see Box 3). Some clearing organisations operate across national boundaries – for example Eurex Clearing which serves the German, Swiss and Finnish derivatives markets. However, none of the mergers of CSDs has yet combined the systems of the different organisations to create a single system serving more than one national market. CREST, which was built from the outset as a single system providing settlement for both the United Kingdom and Irish markets, remains the only example of a single settlement system serving two countries.

The cross-border groups have plans to develop integrated systems serving all their national markets, but these are complex and demanding projects. None has yet been completed. Meanwhile, economies of scale have been elusive. It is a long, hard (and expensive) slog.

Box 3

Examples of cross-border mergers of clearing and settlement organisations

- Deutsche Börse acquired Cedel to merge it with the German CSD, Deutsche Kassenverein, to form Clearstream in 2000
- Euroclear Bank merged with Sicovam in France (2001), Necigef in the Netherlands (2002), CREST in the United Kingdom (2002) and CIK in Belgium (2005). The group is now organised with Euroclear SA as holding company and service provider, with the national CSDs and the ICSD as subsidiaries
- VPC in Sweden merged with APK, the Finnish CSD in 2004
- London Clearing House in the United Kingdom merged with Clearnet, the French clearing house, which had already merged with the Amsterdam clearing house to form LCH.Clearnet in 2003

The key challenge that makes the development of integrated cross-border systems so difficult is the absence of harmonisation of market practices across Europe. Crucial differences exist

- in corporate action processing (i.e., giving owners the economic benefits of security ownership: receiving income, being able to take up rights, being able to accept take-over offers etc …)
- in tax processing (i.e., the procedures for reclaiming tax withheld)
- in legal structures for transfer of ownership (i.e., determining when a transfer is final and irrevocable).

As long as these differences in market practice continue to exist, any integrated cross-border system must be capable of managing *all* the different practices of *all* the markets it is serving.[4] This is the cause of much of the inefficiency in the present system and makes system integration much harder to achieve. In 2001 the Giovannini Group identified 15 significant barriers (see Box 4).

[4] One reason it was possible for CREST to be developed to serve both the United Kingdom and the Irish markets was that historically their market practices were quite similar. Even so, CREST had to be built to apply two different methodologies for the calculation and collection of Stamp Duty in the two countries.

Box 4

Giovannini summary table of actions, actors and deadlines[5] for removing the barriers to an integrated EU clearing and settlement environment

Barrier	Necessary Action	Responsible	Deadline
Barrier 7	Operating hours and settlement deadlines should be harmonised.	ECSDA should take the lead in this initiative, in close cooperation with ESCB-CESR.	Within 2 years
Barrier 1	National differences in the information technology and interfaces used by clearing and settlement providers should be eliminated via an EU-wide protocol.	Protocol should be defined by SWIFT and, once defined, should be immediately adopted by the Eurosystem in respect of its operations.	Within 2 years
Barrier 4	Intra-day settlement finality in all links between settlement systems within the EU should be guaranteed.	ECSDA should co-ordinate necessary measures. These measures should be drawn up in close consultation with ESCB-CESR.	Within 2 years and 3 months
Barrier 6	Settlement periods for all systems within the EU should be harmonised.	More study required on the costs of harmonisation versus the alternative of managing additional costs of this barrier.	Within 2 years and 3 months
Barrier 3	National rules relating to corporate actions, beneficial ownership and custody should be harmonised.	Local agent banks, via ECSA, and ECSDA should co-ordinate private-sector proposals. National governments should coordinate their response via the relevant EU Council.	Within 2 years and 3 months
Barrier 8	National differences in securities issuance practice should be eliminated.	IPMA and ANNA should draw up proposals to this end.	Within 2 years and 3 months
Barrier 11	All financial intermediaries established within the EU should be allowed to offer withholding agent services in all of the Member States so as to ensure a level playing field between local and foreign intermediaries.	National governments should co-ordinate their actions via the relevant EU Council.	Within 2 years and 3 months
Barrier 12	Any provisions requiring that taxes on securities transactions be collected via local systems should be removed to ensure a level playing field between domestic and foreign investors.	National governments should co-ordinate their actions via the relevant EU Council.	Within 2 years and 3 months
Barriers 13, 14, 15	The EU Collateral Directive will remove much of the legal uncertainty relating to netting and the uneven application of conflict of laws. Member States should ensure the full implementation of this Directive by the scheduled date of 27 December 2003. While this should be enough to allow the lifting of the restrictions on holdings of securities and securities settlement, there remains a need for a legal framework across the EU under which, whenever securities are held using an intermediary, it is the accounts of that intermediary that establish ownership of those securities.	An EU Securities Account Certainty project should be agreed upon by national governments. The objective of this Project should be to draft the target reform and adequate resources should be made available to meet this objective. This task should be completed within a period of three years.	Within 3 years
Barriers 2,9	National restrictions on the location of clearing and settlement and on the location of securities should be removed, as an essential pre-condition for a market-led integration of the EU clearing and settlement environment.	National governments should adopt the relevant elements on the location of clearing and settlement in the new Investment Services Directive as proposed by the Commission. National governments should then co-ordinate to remove restrictions on location of securities.	Within 3 years
Barrier 5	Practical impediments to remote access to national clearing and settlement systems should be removed in order to ensure a level playing field.	National governments should draw up a set of conditions upon which remote access can be guaranteed across the EU. These conditions should be drawn up in conformity with the requirements of ESCB/CESR.	Within 3 years
Barrier 10	Restrictions on the activity of primary dealers and market makers should be removed.	National governments should co-ordinate their actions via the relevant EU Council.	Within 3 years

[5] Targets specified at the time the Giovannini report was published in April 2003 and listed in the proposed order of implementation.

2.2 Ownership of Clearing and Settlement

Two contrasting trends have been evident recently in the ownership of clearing and settlement organisations.

- In some countries ownership of clearing and settlement has moved out of the control of exchanges. As a result, the exchange, the clearing house and the CSD are separate organisations, each with its own shareholders, directors and management, creating a structure that is described as being split "horizontally". Examples of exchanges ceding control of clearing or settlement include:
    - CREST, a user-owned organisation, which replaced the Talisman system previously operated by the London Stock Exchange;
    - Euronext disposing of the majority of its shareholding in Clearnet to merge it with the London Clearing House to form LCH.Clearnet; and disposing of Necigef, the Dutch CSD, to Euroclear; and
    - OMX selling APK, the Finnish CSD, to VPC, the Swedish CSD, to form the Nordic CSD.

- In other countries, exchanges have taken control of clearing or settlement organisations to create "vertical" structures (also known as "silos"). Examples include:
    - In Italy, Monte Titoli became a subsidiary of Borsa Italiana in 2002
    - In Spain, Iberclear became a subsidiary of BME in 2003
    - In Germany, Deutsche Börse acquired Cedel in 2000, to combine it with the German domestic CSD, which it already owned.

Within these structures, the ultimate ownership of clearing and settlement organisations remains quite varied. Deutsche Börse is a quoted company and therefore has a diverse shareholder base and a commitment to generating shareholder value. Both Borsa Italiana and BME in Spain, while they have created vertical structures, continue to be largely owned by groups of national banks, although public listing remains a possibility.

Where clearing and settlement organisations are not owned by stock exchanges, they are generally owned in some form by their users. This can range from some 216 shareholders in the case of Euroclear down to just four major banks in the case of VPC in Sweden. In the case of LCH.Clearnet, although Euronext retains a shareholding of 41.5%, its voting rights are limited to 24.9% and it is committed to selling its shareholding down to 24.9%. (If Euronext decides to act on the recommendations of the UK Competition Commission this shareholding would be reduced even further to 14.9%.) However, there are exceptions, such as VPS, the Norwegian CSD, which is a freestanding quoted company.

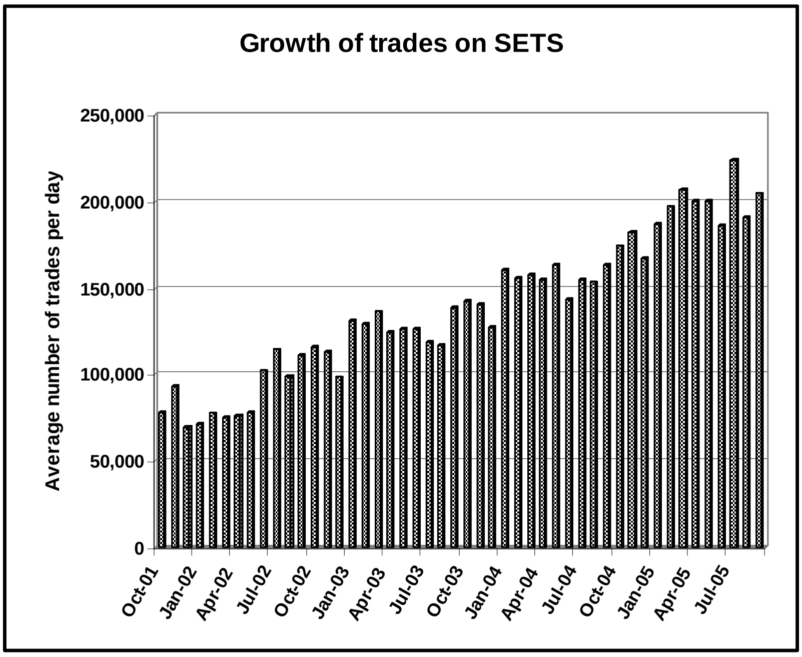
2.3 Trends in Trading Activity

The most significant development in European securities markets during the past decade has been the move to electronic order-driven trading systems, particularly for equities. This has been significant in two important ways.

First, this type of trading system gives participants anonymity both before and after executing a trade. This is crucial to their success, as it enables traders to follow a trading strategy with less risk of other traders being able to follow what they are doing. But it makes a central counterparty an essential complement to the trading system. Firms need to know their counterparties in order to manage their counterparty exposures; by the introduction of a central counterparty the firm can asses its risk whilst their trading counterparty remains anonymous.

Second, the ability to generate trading instructions electronically and execute them in fractions of a second has made possible the development of increasingly sophisticated "black box" trading systems within investment banks and some of their clients. The purpose of the black boxes can be as simple as managing the flow of orders into the market so as to match the average price of a security during the day. They can also be used to execute complex trading strategies arbitraging between different securities or even across different markets.

A consequence of these developments has been enormous growth in the number of trades on major exchanges.



Source: *London Stock Exchange data*

However, much of the arbitrage trading exploits very fine price differences. The profitability of the trade depends on the total cost of executing it – *including* direct and indirect costs of clearing and settlement. Thus, these costs can influence the level of trading activity. This is in contrast to patterns of trading in the past, where trading decisions were made on the basis of investment choices; the costs of clearing and settlement were overheads to be borne, but not factors that determined whether or not the trade took place.

A reduction in clearing and settlement costs – both domestic and cross border - to the sort of levels found in the US would potentially produce very significant increases in black box trading activity in markets in which they are already used, and also stimulate their use in smaller markets in which they are not currently used. Overall that would result in a big increase in market liquidity in Europe.

2.4 A Glance Across the Atlantic

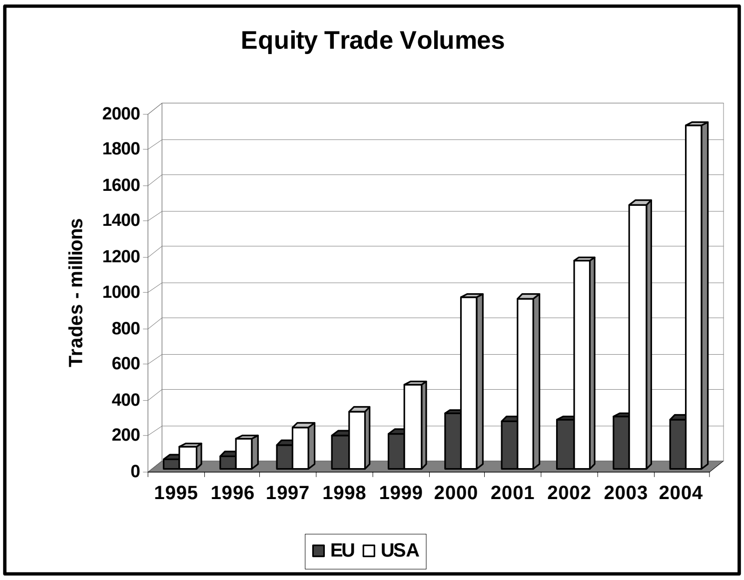
European commentators often look to the United States as a model for Europe. The reality is that there is both good and bad to be observed in the comparison. US markets benefit from having a single, huge domestic market, in contrast to the fragmentation along national boundaries found in Europe. However, the US infrastructure is fragmented in other ways. It is undeniable that in the securities markets, the US domestic market is far larger than the European equivalent, as the following table shows.

Comparison of US and EU equity markets (2004)		
	Number of trades	**Value of trades**
United States	1,900 million	€16.4 trillion
European Union	278 million	€9.9 trillion

Source: *World Federation of Exchanges data*

A study by NERA Economic Consulting for the Corporation of London in 2004 found that there is a "significant gap" between the costs of clearing and settling an equity transaction in the United States and Europe.[6] Whereas an exchange-traded equity transaction settled on a net basis costs around €0.10 in the United States, the cost in a selection of European markets is in the range of €0.35 to €0.80. In fact, given the vast disparity between the volume of trades being processed in the United States and even the largest national markets in Europe, it is surprising that the difference was not greater. This suggests that the main national clearing and settlement organisations in Europe are relatively efficient, but lack the volumes that would enable them to drive costs down to, or below, US levels.

The impact of automated trading, together with low settlement costs and strong competition between exchanges and other trading venues may be part of the reason behind the stronger growth in equity trading in the US than in Europe over the past five years.



Source: *World Federation of Exchanges data*

[6] NERA Economic Consulting, (June 2004), *The Direct Costs of Clearing and Settlement: an EU-US Comparison*, Corporation of London, www.cityoflondon.gov.uk/economicresearch

The United States benefits from the sheer size of its domestic market, with no internal boundaries. However, its market infrastructure remains inefficient in other ways. In securities markets, there are separate settlement systems for corporate securities (DTCC) and for government bonds (Fedwire). In virtually all European countries, these are now integrated in a single system. There is still extensive settlement using share certificates, which is slower and less efficient than in those few European markets where share certificates are still in circulation.

The infrastructure for derivative markets in the United States is still more fragmented. Clearing houses for futures contracts tend to be aligned with individual exchanges, while there is a separate clearing house for options (the Options Clearing Corporation (OCC)), which serves all the options exchanges. Again, this is in contrast to European markets, where a single clearing house typically clears for related cash, futures and options markets.

Nevertheless, the US options market has recently demonstrated the advantages of a common clearing infrastructure, separate from any single exchange. The OCC is owned jointly by all the options exchanges in such a way that new exchanges can use the service on an equal footing. This allowed the International Securities Exchange (ISE) to enter the market in 2000 with a fully electronic market – a novelty at that time in US options – in direct competition with the incumbent exchanges (the owners of OCC). The result has been an increase in liquidity, reduction in trading tariffs, a drive to innovate by the incumbents and one additional exchange entrant to the market. The ISE was the largest stock options exchange in the US in 2004.

There are, however, lessons for Europe from the process of consolidation that has taken place in the United States. The securities clearing and settlement infrastructure originally developed separately for each exchange. The process of consolidation was initiated as a matter of public policy by Congress, which passed the Securities Acts Amendments of 1975 to promote a unified national market in trading, clearing and settlement. Congress directed the Securities and Exchange Commission (SEC) to facilitate the establishment of a unified national system that would have five objectives: efficiency, competition, price transparency, best execution and order interaction. The SEC stimulated the consolidation of the three major central counterparties to form the National Securities Clearing Corporation (NSCC) in 1976, but consolidation of all the regional depositories into the Depository Trust Corporation (DTC) took until 1997.

Thus, even in a single country, with a single currency and a single regulatory framework (albeit with 50 different state laws) the process of consolidation took 20 years. Patience is a pre-requisite for building a financial market infrastructure!

3 The Views of the Stakeholders

3.1 Introduction

In the course of this study we have discussed the future of clearing and settlement with senior people in all the significant stakeholder communities: users, exchanges, operators of CSDs and clearing houses, regulators, parliamentarians and trade associations. A common theme has been a realisation that, while there is much agreement on the challenges facing the industry, there is no perfect and clear solution to those challenges. This contrasts with the situation some years ago, when the tone of the debate on the future structure of securities market infrastructure was much more strident and the differences of opinion were starker. Now that some steps towards a more integrated European infrastructure have been made, there is a realisation that it is not easy and that some compromises are inevitable.

3.2 A Common Goal: Cheaper, Simpler Post-Trade Processes

The prime objective of all stakeholders is to reduce the cost and complexity of clearing and settlement, particularly when operating cross-border. There are two main approaches to achieving this: through reducing the number of systems (consolidation) and through reducing the differences in practice between the markets (harmonisation). The following sections describe the activity currently under way on consolidation and harmonisation and report the views of interviewees on this work. Subsequently, the report discusses two topics where views are divided: whether consolidation is more effective than competition at reducing costs, and how the ownership of post-trade organisations affects the effectiveness of markets.

3.2.1 Rationale for consolidation

The cost of clearing and settlement processing infrastructure is largely fixed. Therefore significant economies of scale can be achieved by pushing more transactions through fewer systems. The impact is to:

- reduce transaction costs, as fixed processing costs are spread over more transactions; and

- reduce connection costs for users, since for each clearing and settlement provider a user connects to there are costs which are specifically attributable to that connection. These costs include the costs of maintaining multiple technical interfaces and of employing experts on the different market practices. Generally, these indirect costs within a user's firm are at least as great as – frequently greater than – the direct costs that are invoiced by the clearing or settlement provider.

An additional point in the case of clearing houses is that consolidation of clearing results in more efficient use of capital.

- Users currently have to assign capital to the default fund of every Clearing House in which they are a participant. Capital required for the default funds of clearing houses can be reduced by consolidation.
- Collateral posted by users can potentially be reduced by offsetting correlated risks.

3.2.2 A single clearing house

When asked to prioritise between consolidation of clearing houses and consolidation of CSDs most interviewees gave priority to the creation of a single clearing house. They gave a number of reasons for this:

- Consolidation of CCPs should be easier than consolidating CSDs. They are less embroiled in the particularities and politics of local markets and therefore consolidation should be more feasible. It is felt that the consolidation of CSDs will naturally take longer.

- A consolidated CCP not only reduces transaction costs through economies of scale, but also reduces the amount of capital committed to the clearing and settlement process by the user.

- The clearing of cash equity and bond trades through a CCP reduces the number of settlement transactions and of itself significantly reduces settlement costs.

The goal is to bring together cash equities, bonds and exchange traded derivatives into a single CCP so as to gain the maximum benefit. There is a shared belief that this would be self-evidently beneficial. The more asset classes processed in a single CCP, the greater the effect of netting risks.

Having said that, few of the interviewees had a clear opinion on the size of this benefit. This is not surprising since it is by no means a straightforward matter.

- The outlook of most individuals we spoke to was limited to one product grouping – a natural consequence of the fact that most intermediaries organise their business along asset class lines. At present most user firms are not organised in such a way as to recognise the situations in which a system which offset risks across asset classes would have reduced their overall collateral requirement and by how much. For the same reason, few users are currently in a position to make the maximum internal cost savings available from integration across these asset classes.

- The ability to net risk across different assets would depend on the confidence the clearing house had in the correlation between different asset groups and whether that correlation would hold up under conditions of market stress.

The merger of LCH and Clearnet is clearly seen as a major step towards the creation of a European CCP. It brings together clearing for several of the major European cash and derivative markets. The resulting group is of such significance that it is seen as an undeniable starting point for further consolidation of the major markets.

Users also see that LCH.Clearnet has much yet to do to achieve complete rationalisation of the two organisations and reap the benefits envisaged at the time of the merger. The introduction of a consolidated systems platform will be a large programme which has started late due to the cancellation of an earlier project.

The greater objective, however, is a single clearing house across all the major European markets. Whilst interviewees are enthusiastic about the potential for further consolidation there is concern that LCH.Clearnet will not have the capability to drive it forward when it has so much on its own plate at present. In addition, the exchange/clearing/settlement silos in several European countries present barriers to the creation of the industry-favoured solution. There is a widespread view that Eurex Clearing needs to be a part of a consolidated European clearing house but it is indirectly controlled by Deutsche Börse, which earns significant revenue from it. Even if Deutsche Börse decided to sell it they would have to maximise the value to their shareholders. This is likely to place a substantial value on it. At its likely valuation, it could prove difficult to obtain the finance from the user community to finance the purchase.

Some users, however, believed that a merger with Eurex Clearing at this stage could help because:

- it would force LCH.Clearnet to take a more radical approach to the rationalisation of its organisation and procedures; and

- Eurex Clearing would bring with it a system which could meet LCH.Clearnet's current need.

Conclusion: We found widespread support for the objective of developing a single European central counterparty as a matter of priority. This was offset by concern that a central counterparty without Germany would fail to achieve its objectives, but there seemed to be significant difficulties in bringing Eurex Clearing into such an organisation.

3.2.3 Consolidation of settlement

Many interviewees thought that, for the foreseeable future, consolidation of settlement into a small number of regional groupings was as much as could be achieved – and would in fact be a great improvement on the present tangle. At present, there are two regions where settlement consolidation is under way: the Euroclear countries (Belgium, France, Ireland, Netherlands and the UK) and the Nordic region (Sweden and Finland).

The Euroclear Constellation

Euroclear has embarked on a programme to develop a single platform and common interface for the French, UK, Dutch, Irish and Belgian CSDs and Euroclear Bank. This was regarded by interviewees as an ambitious project. There was apprehension at the cost and timescale, but an appreciation that if the project comes to fruition successfully it will create important foundations for further CSD rationalisation.

- It will have created a model for the acquisition of further CSDs if opportunities arise.

- It will have set standards for settlement procedures and access interfaces which will be hard for other CSDs to ignore. If other CSDs adopt these standards it could significantly reduce the costs of cross-border users. It could also encourage the establishment of other regional constellations of CSDs.

- It will have created a system which could be hired out to other CSDs so that they can gain some benefit from economies of scale, short of a full merger with Euroclear.

The Euroclear project is very large – it is to be implemented in stages with the final stage believed to be due for completion in 2011 - and so, as with all projects of this magnitude, there must be a risk that it is delayed by unforeseen events. There is also concern that Euroclear may not have the capacity to participate in further consolidation much before the end of the project.

Overall, there was support from interviewees for Euroclear's programme. However, it will produce a system platform combining CSD and ICSD processing. There have been objections from some custodian banks that it will give Euroclear Bank's ICSD business – as a user of CSDs - a privileged position versus the banks. Euroclear may be pressed to prove more transparently that the ICSD has equivalent CSD access to the bank users. Some interviewees, who did not object to the Euroclear structure as a matter of principle, nevertheless expressed concern that the demands of running and developing Euroclear Bank were distracting the attention of management from what they saw as the more important task of developing a European CSD platform. They would like to see a board and management structure dedicated to the group's CSDs, separate from that of Euroclear Bank and with strong representation of European users.

The Nordic Constellation

The de-merger of the Finnish CSD from the OMX group and its merger with the Swedish CSD has created a clear separation between a consolidated regional group of exchanges and an embryonic CSD constellation. OMX now has a controlling stake in, or shares systems with, the Swedish, Finnish, Danish, Norwegian, Icelandic, Estonian, Latvian and Lithuanian exchanges. The Swedish and Finnish CSDs have merged and there is an expectation that further mergers will follow. There is general respect for this move amongst users and an expectation that it will lead to a consolidated clearing and settlement constellation for the Nordic region.

Conclusion: We found general support for the direction that settlement consolidation is taking, although there continue to be doubts about the Euroclear group structure. Although most interviewees would accept consolidation into a small number of regional groupings as a good enough solution, even this is not currently under way in central and southern Europe.

3.2.4 Integration of clearing and settlement

There is a view that an integration of settlement and clearing platforms, along the lines of DTCC in the United States, could provide some further benefit. But the benefit would be limited and there is no strong drive for it.

Some of these benefits – specifically some reductions in transaction and connection costs – could, in theory, be achieved by sharing systems between clearing and settlement providers. However, the lack of common practice between CSDs and clearing houses means that it is difficult to use a platform designed for one market in another. The clear majority view is therefore that corporate consolidation among the operators of these systems is necessary before significant economies of scale can be achieved.

3.2.5 Harmonisation of practice

Differences in market practices, technical standards and tax and legal regimes across Europe add to the costs of market participants and the complexity and difficulty of integrating systems across borders.

The Giovannini Group identified 15 barriers to improving the efficiency of cross-border transactions in Europe (see Box 4). These barriers mean that systems for clearing and particularly settlement in one country cannot be used in another without major modification. To consolidate two organisations with different systems and procedures there are broadly two choices:

a. to develop a single system which offers the combined set of services; or

b. to harmonise services and procedures before trying to consolidate systems.

Option a. however is unsatisfactory in a number of ways.

- It requires a significant development investment.
- It builds in much of the existing complexity and therefore reduces some of the economies of scale.
- It does not allow users to rationalise their investment in connections to providers nor to reduce the amount of specialist expertise they require in their back offices.

Harmonisation is thus the key both to reducing the cost and complexity of cross-border transactions within the present structure and to facilitating the development of integrated cross-border systems.

Some progress has been made on agreeing standards which address the Giovannini barriers. For instance the European CSD Association (ECSDA) has developed standards for inter-operation between CSDs, for barrier 7 - opening hours, barrier 4 – settlement finality and barrier 3 - corporate actions. Also, SWIFT has recently defined a draft common communication protocol for EU clearing and settlement directly addressing barrier 1.[7] This is currently out for consultation until January 2006. Its adoption will be a welcome development, if it addresses the concerns expressed by many interviewees that the current messaging standards leave too much leeway for varying implementation in different countries.

Creating standards is only the start of the process. Before they can have any real effect:

- They need to gain general acceptance
- They need to be adopted widely and consistently
- There needs to be an industry mechanism for keeping them up to date

Even though there has been progress on the creation of standards, adoption and implementation remains weak.

[7] S.W.I.F.T, (October 2005), *Elimination of Giovannini Barrier 1: Draft Protocol Recommendation*, http://www.swift.com/index.cfm?item_id=57993

The most thorough work on harmonisation currently under way is that being undertaken by Euroclear. The objective is to arrive at a single set of market practices that can be implemented in the single settlement platform being developed. There is strong user involvement and market consultation in this work. As a result, we heard widespread support for the Euroclear harmonisation work and its results, even from quarters which have been critical of them on other matters. It is seen by many observers as a path-finding mission, which will set de-facto standards which can and will be adopted by other CSDs once the project has been proven.

The merger between LCH and Clearnet has also given rise to a drive towards rationalisation of systems and procedures. Users raise two important issues about the process, however:

- LCH.Clearnet will continue to have separate French and British operating units within its group. There is a concern that this does not demonstrate an ambition to drive rationalisation as far as it should go.

- It is important that the harmonised processes being developed at Euroclear and LCH.Clearnet are consistent with each other.

There remain areas where action by governments is required to address the barriers identified by the Giovannini Group. Progress has been patchy here, too.

- There has been no progress in liberalising the rules that effectively require non-French investors to appoint a French agent to collect tax on income paid on securities in France. This requirement hampers efforts to develop a single settlement infrastructure for the Euronext markets.

- Reclaiming withholding tax in Italy continues to be a problem for foreign investors.

- Investors outside the United Kingdom point to the complexity of the arrangements for calculating and collecting Stamp Duty as an obstacle to direct access to the UK market.

Conclusion: We found consistent support for the importance of achieving harmonisation and general praise for Euroclear's approach and the results it is achieving. In other areas, however, there was criticism for weak implementation of agreed standards and for inaction by governments.

3.3 Is Consolidation the Best Way?

There is general agreement that the best way to maximise economies of scale is by corporate consolidation to create a single organisation that operates one set of systems with standard procedures, processing the greatest transaction volume. Arriving at this goal is not plain sailing, however. Anyone who has gone through the process will say that the M&A deal is the easy part. Interviewees pointed out that consolidation has a number of potential drawbacks.

- There are often very significant delivery risks. For example, both Euroclear and LCH.Clearnet have found that their consolidation projects have become larger and more complex than was originally envisaged at the time of their respective mergers.

- Within the present regulatory structure, cross-border consolidation can lead to regulatory inefficiency. The European regulatory system is founded on the individual regulators in each state. Organisations operating cross-border inevitably have to satisfy multiple regulatory bodies since there is no effective means of delegating regulatory responsibilities, particularly regarding clearing and settlement organisations. LCH.Clearnet, for example, has to deal with 14 regulatory bodies. While these are not all European, methods for regulating cross-border infrastructure providers within Europe are still in the early stages of development. The current "college of regulators" concept was widely considered by interviewees to be inefficient and a constraint on progress.

- European CSDs and clearing houses may not be formally underwritten by their national central bank or government, but there is an assumption that, if they were in crisis, a national central bank would provide support in order to restore confidence in the national financial system. In the case of a CSD or clearing house operating in a number of countries there is uncertainty over which central bank should assume responsibility.

- While a consolidation process is under way, there is a risk that it occupies the full attention of the merging organisations. This can go on for a long period and be to the detriment of their contribution to new developments in the markets.

By contrast, there is a shared belief that, in principle, competition is the best mechanism for driving costs down and encouraging innovation. If it were possible to effectively encourage competition between clearing and settlement providers while also achieving economies of scale it would be ideal.

However, clearing and settlement is a network business. The more extensive the network of users and the more business they put through a single service the more effective that service becomes. This fact of life means that clearing and settlement businesses operate according to a gravity model – the more business they have the more business they are likely to attract - which gives rise to natural monopolies.

The only way to offer real competition is to create linkages between the providers which allow the user of one platform to clear or settle with the user of another as easily as with a user of their own platform. Such an arrangement (the Bridge) is in place between Euroclear and Clearstream for settlement of Eurobonds.

There was scepticism from our interviewees, however, that this sort of arrangement creates real competition because:

- The switching costs between platforms are likely to be high and therefore users will only change provider if there is a large advantage to be gained;

- The interconnection mechanism itself is likely to be complex and costly and this will add to user costs; and

- Innovation is slowed by the providers having to develop new functionality in parallel.

Conclusion: On balance the reluctant view of the majority is that competition will have to be sacrificed in order to achieve the consolidation which will create significant economies of scale – even with all its attendant risks.

3.4 Who Should Own the Post-Trade Process?

The majority view among interviewees is that exchanges should not own or otherwise control the post-trade process. Clearing and settlement is seen as a utility function and there is concern that exchanges – particularly for-profit exchanges – could keep clearing and settlement prices high, cross-subsidise trading fees or control access to the process chain so as to prevent entry by competitors. This view is supported by the joint statement of principles issued by trade organisations in the UK, France, Sweden and Italy in February 2005 (Appendix D).

A minority view is that ownership is not the material issue. More important is whether there is sufficiently open access to different parts of the process chain to support competition. For example, if a second exchange wants to offer a trading service in a market in competition with the incumbent, its success will be maximised if it can use the same post-trade processes as the incumbent exchange. If the incumbent exchange controls access to either or both of the clearing house and CSD and can prevent competitor exchanges from using them, it can effectively block them from entering its market. Access to post-trade services for a competing exchange is a necessary but not a sufficient condition for successful entry by a competing exchange.

A good test case for the importance of access to common clearing and settlement arrangements for a competing exchange is provided by the Dutch Trading Service (DTS) offered by the London Stock Exchange in 2004. In response to trading firms' dissatisfaction with Euronext, the London Stock Exchange launched a service for trading Dutch shares with fees up to 50% lower than those charged by Euronext, using the same clearing and settlement arrangements. Initially, DTS was successful in attracting trading volumes, but subsequently has not sustained these volumes.

Our interviewees gave a number of reasons for this failure. Managing order flow across two trading platforms requires smart order routing technology. While this exists and is used in the United States to take advantage of competing trading platforms there, very few firms had introduced it in Europe. In the Dutch domestic market, banks had developed efficient straight through processing systems for clearing and settlement of high volume retail trades and it would have required a large investment to re-develop them to settle LSE trades. Nevertheless, Euronext reduced its trading fees for Dutch stock by an average of 30% in response to DTS. It is interesting to note that although Deutsche Börse also introduced a competing service for Dutch stocks ("Dutch Stars") in late 2003, this did not use the same clearing and settlement infrastructure as Euronext and, probably as a result, did not provoke any reduction in fees.

The United Kingdom Competition Commission, in its report into a possible merger between either Euronext or Deutsche Börse and the London Stock Exchange, concluded that control of the clearing arrangements by an exchange could enable them to foreclose entry to a potential competitor in the provision of trading services.[8] The remedies that the Competition Commission identified are summarised in Box 5.

[8] Competition Commission, (November 2005), *A Report on the Proposed Acquisition of London Stock Exchange plc by Deutsche Börse AG or Euronext NV,* http://www.competition-commission.org.uk/rep_pub/reports/2005/fulltext/504.pdf

Box 5

Summary of Competition Commission findings

The Competition Commission concluded that a combination of structural measures and behavioural commitments would be required to address the potential effects of a merger of either Euronext or Deutsche Börse with the London Stock Exchange. These were broadly similar for the two exchanges and are summarised below.

Structural remedies

The relationship between the parent exchange and the clearing house for the London Stock Exchange should be such that:
(a) its shareholding in the clearing house and corresponding voting rights are no more than 14.9 per cent;
(b) it has no more than one board seat representing no more than 14.9 per cent of board representation; and
(c) no reserved matter exists for the exchange's benefit other than basic rights of minority shareholder protection.

Behavioural remedies

Behavioural commitments to accompany the structural remedies would be:
(a) incorporate principles of timely, open access on fair, reasonable and non-discriminatory terms within the Memorandum and Articles of the LSE clearing provider;
(b) place all agreements and details of charges and revenue between LSE and its clearing provider in the public domain and produce separate accounts for the clearing provider on LSE activities;
(c) ensure that the LSE Board following acquisition consists of a majority of independent directors and that appointment or replacement of LSE's clearing provider or any other aspect of LSE's relationship with its clearing provider are approved by a majority of these directors;
(d) not to replace the LSE clearing provider without approval of 51 per cent of LSE clearing members by number and by volume of LSE trades cleared;
(e) not to offer employment, consultancy or any prospect of remuneration to a management employee of the LSE clearing provider (subject to employment law constraints);
(f) a commitment that in the event that Deutsche Börse or Euronext retains any board representation in the LSE clearing provider, it must absent itself from any discussion of conflicted issues such as potential entry and must not receive confidential information related to this;
(g) not to have any right to obstruct or constrain full fungibility for clearing of UK equities in any agreement between LSE and its clearing provider; and
(h) to remunerate independent experts working under the sole direction of the OFT to assist the OFT in monitoring compliance with, and investigating possible breaches of the behavioural undertakings set out paragraphs *(a) to (g)*.

Other competition authorities are also looking into vertical integration between trading, clearing and settlement. The Italian competition authorities are reported to have launched an enquiry into whether the Borsa Italiana vertical silo hampers competition. It is also reported that DG Competition of the European Commission is collecting information on vertical structures. Borsa Italiana is understood to have made it clear that their policy is to allow open access to each of their subsidiaries and not to prescribe where clearing and settlement should take place. In fact BrokerTec, the bond and repo trading platform, was recently given access to the Italian clearing and settlement system. This will allow it to compete directly with MTS, which is part-owned by Borsa Italiana.

However, the preferred alternative to ownership by a for-profit exchange – user ownership and governance – is not without problems.

User governance is generally cited by users as an essential counterbalance to the monopoly power of the clearing and settlement providers. At the same time, however, interviewees expressed widespread dissatisfaction with the way user governance is operating in practice. They were critical of the difficulty user-owners face in influencing the strategies of the organisations they own and in gaining access to the information they need to assess decisions. If users are not really driving board policy, there is the risk that management control the organisation and have their own agenda: their accountability to user/owners needs to be increased.

Those who have thought about it deeply (and particularly those with direct experience of user governance) recognise that user ownership has inherent challenges. Interviewees gave the following examples.

- User owned monopolies tend to be slower to innovate. Decisions may require consensus from heterogeneous groups of users. New developments require investment capital and often impose short term migration costs on users. A user-owned organisation may therefore tend to put off such investments.

- Development may be constrained by the reluctance of the user community to put up the finance for investment. There can also be a tension between the need to invest surpluses and users' desire for fee reductions or rebates. It is a perennial issue for a business which is capital intensive and which needs to invest in replacement systems at intervals. It is a particular concern in the current situation in Europe in which consolidation will potentially involve buying out the existing owners.

- The balance of power may be weighted too far in favour of management and against the directors representing users. It is difficult for directors, who generally also have demanding jobs in their own organisations, to be able to master all the information required to make decisions for a clearing or settlement organisation, especially when – as often happens – it is made available only shortly before board meetings. It can also be difficult for them to have access to all the required information, for example when user board members may be conflicted. This can often be the case, for example when the board of a clearing or settlement organisation has representatives from competing exchanges.

- The constitutions of some infrastructure organisations place legal obligations on directors to act in the interests of the company rather than users. This can make the job of a user representative board member very difficult.

Interviewees suggested that, to be effective, user governance has to be complemented by general principles of good corporate governance. An effective board requires that directors should be able to devote adequate time for their responsibilities and that they should have access to the information they need in time to absorb it, just as they would in their own organisations. The objectives and incentives of management should be transparent to shareholders. The ability of the governance structure to identify and resolve contentious issues should be a test of its effectiveness. This is particularly important where an infrastructure provider is providing services in competition with other firms.

Conclusion: Separation of the ownership and governance of clearing and settlement organisations from trading platforms – particularly from publicly quoted exchanges - was generally seen as vital for ensuring that they operate to reduce costs and promote competition. At the same time, however, there is dissatisfaction with user governance in practice and a desire to make it more effective.

4 The Way Forward

Although clearing and settlement are frequently joined together in discussion, in practice they are likely to evolve along two separate paths over the next five years. That is likely to be the way to achieve the quickest progress. It also addresses the industry's most urgent priorities. Although there may be synergies from bringing clearing together with settlement, they are relatively modest and can be targeted later.

4.1 The Route to Clearing Consolidation

The key challenge is the formation of a consolidated European CCP.

This is an important goal, not only for its own sake, but also for the impact it could have on the competitiveness of trading and settlement. It would:

- Create further economies of scale in the cost of processing clearing transactions;

- Enable firms to economise on the amount of collateral and clearing fund capital they have to commit to clearing;

- Support greater competition between exchanges. Users could switch trading venue without having to change their clearing and settlement arrangements and with minimal investment;

- Simplify post-trade processing by acting as a standardising "front end" to the settlement services. Consolidation of CSDs, though still desirable, would then be a lower priority.

In addition, the effect of netting in reducing settlement volumes would increase pressure for further consolidation of CSDs. The reduction in the number of settlement transactions would be likely to call into question the viability of the smaller national CSDs.

The biggest benefits come from consolidation of clearing for the biggest markets, so the core of this concept must be the bringing together of LCH.Clearnet and Eurex Clearing. There is strong user pressure from some quarters to bring it about sooner rather than later and there have been reports of conversations between the two organisations in recent months. The obstacles to such a marriage are considerable, however.

- Eurex Clearing is controlled by Deutsche Börse, a public, for-profit exchange which is committed to maximising value to its shareholders by operating through a vertically integrated structure.

- Eurex Clearing has a significant book value for which Deutsche Börse would expect appropriate compensation, if it were to sell.

- LCH.Clearnet is a private company which, whilst technically for-profit, is seen by many as a monopoly utility which is not able to maximise profit in the conventional sense.

- It proved difficult to raise investment capital from users to buy out Euronext's share of Clearnet at the time of the LCH/Clearnet merger. It would be a bigger challenge to finance a merger with Eurex Clearing.

- LCH.Clearnet already faces significant challenges with its current consolidation – could it take on more?

The outlook is not entirely negative, however.

- With its recent change of management Deutsche Börse now has an opportunity to reassess its strategy.

- The conclusions of the Competition Commission in the United Kingdom (summarised on page 29) are likely to be followed by other EU competition authorities looking at the relationship between exchanges and post-trade services. There is already a preliminary inquiry by the EU Competition Directorate and an inquiry into the Borsa Italiana "silo" by the Italian competition authority.

- It is possible that the result of this attention by regulators could be to view the post trade services as utilities and to place competition law constraints on them. This could lead to investors perceiving those activities as being less valuable than they are now. It could also lead Deutsche Börse to think that running a constrained clearing service was no longer compatible with the commercial freedom it needs.

- If clearing services were generally considered to be, and were valued as, utilities, it could open up other possible ownership and finance structures – exchanges could have small shares in a common CCP and outside investors could be attracted in, provided it is clear that they are investing in a utility. It would open up the possibility of raising finance through a bond issue. This mechanism could also be used to buy out some of the existing shareholders where ownership concentrations need to be reduced.

- The Eurex clearing system could be a valuable asset in a merged organisation. Since LCH.Clearnet has just embarked on a major systems investment it may be possible to redirect some of this investment to help pay for a merger provided the deal was done soon.

Behind a development of this sort lies a significant challenge for users: if they believe in user ownership, would they be prepared to pay for it? Would they find the cash when it comes to the push?

If a merger along these lines was possible with Eurex Clearing it would send a strong signal to other exchanges – e.g. Borsa Italiana and Bolsas y Mercados Españoles - aspiring to be shareholder-driven vertical structures and could bring their clearing operations into play.

4.2 The Route to Settlement Simplification

The most important development for improving the cost and efficiency of cross-border settlement in Europe is the evolution of standard market practices and messaging. It is the key to gaining economies of scale from corporate consolidation. If it happens before corporate mergers it creates a context in which consolidation is more attractive and can reap more immediate benefits. If all the CSDs in Europe were operating according to common procedures and common connection standards the benefits would be very considerable.

- Users would be able to connect to any CSD using the same software and would be able to operate settlement through any CSD using one group of staff. This would enable users to become direct participants in more CSDs, as they would like to do, rather than having to use agent banks or ICSDs. That in turn would lower the entry barriers to cross-border trading of markets which users currently see as being of marginal value.

- The consolidation of CSD processing would be much more feasible. Significant economies of scale would be possible either through full corporate consolidation or, as a pretty effective second best, through using common systems.

- It would open up the possibility (but maybe not the likelihood) of exchanges and clearing houses having a freer choice over the CSD(s) they route trades to and offering a choice of CSD to issuers and investors.

The components of this standards framework are being addressed:

- By the SWIFT Securities Market Practice Group in their work on a communications protocol – Giovannini barrier 1;

- By ECSDA with their work on Harmonisation of Corporate Actions Processing, Opening Schedules and Intra-Day Finality – Giovannini barriers 3, 4 and 7; and

- In a very practical way by the Euroclear harmonisation project.

It appears that the Euroclear project will be a trail blazer for the adoption in earnest of harmonisation standards across CSDs. Once it can demonstrate tangible benefits it is expected that the resulting constellation of CSDs, sharing a common system, will attract some other CSDs to join. But at the moment we are looking at a 5-year horizon. Patience is required!

Harmonisation needs to go further, however.

Firstly, we cannot expect the standards hammered out in the Euroclear venture to perfectly fit all circumstances across Europe. There needs to be further evolution to ensure the standards cover the maximum territory.

Secondly, it is unrealistic to expect that all CSDs will converge on Euroclear as a partner. The most likely outcome is that there will be a number of collaborative constellations, created either by mergers or sharing of infrastructure. There will also be some CSDs that choose to stand alone. Nevertheless, there needs to be a concerted push to adopt common standards irrespective of the eventual corporate structure of the industry.

In principle, the benefits of harmonisation can be realised without common ownership or consolidation of systems. However, experience has shown that progress is fastest when faced with the prospect of developing a consolidated system. Common ownership is a prerequisite for making the investment in developing a consolidated system. The ownership structure of European CSDs is, therefore, key to whether or not progress is made. While the position of several CSDs within vertically integrated groups does not prevent them participating in a European harmonisation programme, it is likely to make it a lower priority for them.

4.3 Choices to be Made

Improving the efficiency of Europe's clearing and settlement infrastructure is a common goal of all the stakeholders. Whilst very significant steps towards the goal are under way it is also true that most stakeholders would like progress to be faster. The issue being currently debated is whether the goal can be achieved quicker by official intervention and if so which is the best method of catalysing the changes needed.

4.3.1 An EU directive

The majority view of interviewees is that an EU directive is undesirable. A minority, however, think it might help provided it is tightly focussed. In general, however, neither supporters nor detractors seem clear as to specifically what a directive might seek to mandate.

The case for a directive is that:

- Progress is too slow at present. There is a need for a "pebble in the pond" to disturb the current status quo and encourage more rapid convergence on the goal.

- A directive could require exchanges and clearing and settlement organisations – particularly those within the "silos" - to offer more open access and to be transparent about the allocation of their costs.

- Some of the Giovannini barriers require governmental action that is less likely to be taken in the absence of a directive.

- If it moves the process along faster it is worth the risk (which almost everyone recognises) that during the course of its drafting and debate the directive could gather provisions which are unnecessary and undesirable.

The case against a directive is that:

- The authorities already have sufficient powers to tackle the main obstacles. Current competition law could put pressure on any organisation thought to be abusing a monopoly position by unreasonable pricing or restrictions on access.

- There is fear that a directive could turn into "another MiFID". There is concern that in the course of moving from proposal to legislation a good initial idea can go badly wrong – introducing considerable additional cost and probably missing its target. The experience leads many interviewees to believe that the risk of a clearing and settlement directive being counter-productive is too high.

- It could, in fact, slow the process down rather than improve the situation. It would take a considerable time for a new directive to be agreed let alone to become law. There would be uncertainty in the meantime which could slow down or stop further consolidation.

If a directive were to be drawn up what would its objectives be?

- To remove those Giovannini barriers where government action is required? The removal of a number of the Giovannini barriers requires action from national governments. The Giovannini Group recommends new legislation on Account Certainty as part of the solution to barriers 13, 14 and 15 – all relating to legal certainty – and this would need to be part of a directive in due course. The other actions required from national governments may not be of sufficient scale for a directive to be the best vehicle for driving action.

- To break open the exchange/clearing/settlement "silos" in Germany, Spain and Italy? A directive does not seem to be an appropriate instrument for this issue. This is fundamentally a matter for competition law. Before the authorities could direct any change from these organisations it would have to assert that they were acting in an anti-competitive manner. If they were to make this challenge, the current powers under competition law would probably be adequate to deal with it.

- To break open the ICSD/CSD silo of Euroclear? If the concern that Euroclear's ICSD may be given privileged access to their national CSDs in the new combined system has merit, it, too, is a matter primarily for competition regulation and would not require new powers under a directive.

The view of the majority of interviewees is that the most pressing issues can be addressed without a directive – just as effectively and certainly more quickly. A Directive should be considered as a last resort in the event that other approaches are not producing adequate results and it should not be embarked upon without carefully weighing its likely costs and benefits.

4.3.2 Rationalise regulation

The European Financial Services Round Table, in its report in June this year,[9] commented "more efficient and effective supervision of financial institutions is a key element to improve growth and integration of European financial markets". At present, however, the regulatory structure for financial infrastructure impedes the development of a more streamlined infrastructure, rather than supporting it. The problems with the present structure derive from its historical basis in national legislation, which is not well adapted to organisations attempting to operate across national boundaries. The result is that consolidation of infrastructure providers creates the need for co-operation between national regulators, which is difficult to achieve, given their different domestic objectives and responsibilities. The failure of the ECB-CESR effort to agree common standards for clearing and settlement providers demonstrates how difficult it is to find common ground.

If there is to be progress towards a rationalised infrastructure for European securities markets, it is essential that this be accompanied by rationalisation of the regulatory framework. This can be achieved in a number of ways. The European Financial Services Round Table report proposed the adoption of a "lead supervisor", fully empowered to conduct the entire prudential supervision over all operations of a financial institution within the EU, to be supported by a subsidiary college of supervisors from all the countries where the institution had operations, through either a branch or a subsidiary.[10]

Full implementation of this structure would probably require EU legislation, but regulators could nevertheless explore the discretion they have under their existing powers to delegate responsibility to a single regulator to provide a coherent overview of an institution operating across borders.

Achieving rationalisation of the regulatory framework is likely to prove one of the most important building blocks to the creation of an integrated European securities infrastructure. Progress can – and probably will – be made in the absence of such a framework, but it will be slower, more expensive and less effective.

Shaping the competitive environment

In addition to the need to streamline the current regulatory framework, there is at present a gap in the regulation of the efficient functioning of markets. Financial regulators are not responsible for promoting competition in the markets they regulate, while competition authorities intervene only in response to a potential problem. This suggests that there might be a need for a European-scale regulator with different powers from those of existing financial services regulators. They would have powers to:

- Scrutinise and control the prices of what would become, over time, de-facto monopoly utilities; and
- Establish rules and standards for access, in order to ensure that competitors had fair access to services provided by a dominant infrastructure provider in a particular market.

[9] European Financial Services Round Table, (June 2005), *On the Lead Supervisor Model and the Future of Financial Supervision in the EU – Follow-up Recommendations of the EFR*, http://www.efr.be/members/upload/news/22676EFRlsvfinal-June2005.pdf
[10] *ibid.*,

An analogy would be the utilities regulators that exist in many countries, with powers to regulate the business practices and prices of utility companies and to force powerful market players to open their markets to competition. It is also noteworthy that progress in the United States resulted, in part, from the SEC being given responsibility for the functioning of the market.

The current European financial services regulatory system is primarily designed to protect investors and consequently focuses principally on the regulation of exchanges and intermediaries. However, the creation of a new institution to oversee the competitive provision of financial infrastructure would be an onerous step. There would be little enthusiasm for it from market participants unless it was clear that the existing competition authorities were unable to tackle problems and achieve satisfactory outcomes.

4.3.3 Conclusion

Bringing about change through legislation is generally slow and can have unexpected results. Wherever possible, there is therefore a preference for working within the existing legislative framework. Change can be brought about through users exerting their influence, competition authorities using their existing powers and regulators working together. Heavy-handed intervention from law makers or regulators should be considered as a last resort, when other approaches have failed. When the industry is moving in a positive direction, it needs support to encourage and support its initiatives, using existing powers to clear obstacles to faster progress.

Progress is still being driven in a rather piecemeal fashion, however. It is concentrated in a number of important, but separate initiatives – the work of the Giovannini Group, the Euroclear projects, the LCH/Clearnet merger and restructuring in the Nordic region. It is not easy to co-ordinate these separate efforts towards a single pan-European goal. In particular, there is no European scale body representing clearing and settlement users - such as the Securities Industry Association and Futures Industry Association in the USA - which can form and represent views that have broad support across the user community.

5 Conclusions

Clearly, progress is being made towards achieving the goals that most players agree are needed. But that progress is slower than many would hope for. However, any reform to rationalise and consolidate an industry as fragmented and complex as clearing and settlement in Europe will take time. It is natural for those not directly involved to be frustrated with the pace of change but a resort to heavy handed legislative action is likely to slow things down. Nevertheless, there are factors present that are unnecessarily inhibiting this process and there needs to be a sharp focus on these areas.

No-one – neither in government, nor in the markets – can claim to know now what the right structure is. It needs to evolve, and keep evolving, in response to the changing needs of the markets. However, governments and market participants can act to remove the obstacles to evolution and create the most favourable conditions for a more rapid reform process. There is general support for the views recently expressed by Commissioner McCreevy that the industry should get its act together and come up with action in the course of the next six months. For an industry that has not always moved at more than glacial speed, this is a challenge. But we believe a number of steps could be taken quite quickly provided the necessary will was there.

On the basis of the interviews we have conducted, we believe that the following recommendations for action by users and national and European legislators stand a good chance of achieving consensus:

A. National and European legislators need to concentrate their energies precisely in those places where they can make an immediate difference (rather than waiting the five years or so that a directive would take to agree and implement):

1. Governments should dismantle the remaining Giovannini barriers that are within their control as quickly as possible, so that a truly level playing field is created. The many different processes used in different countries for collecting taxes on securities transactions and income currently inhibit cross-border participation in settlement systems. Harmonising these processes – which does not require governments to give their ability to set different tax rates – is a priority.

2. The existence of vertically integrated structures bringing national trading, clearing and settlement organisations under common ownership – particularly when the resulting group has a commitment to maximise shareholder value – is an obstacle to the development of a rationalised post-trade infrastructure in Europe. Governments need to take strong steps, using existing powers under competition law to ensure that competition is actively encouraged by ensuring that there is open and easy access to all parts of the trading, clearing and settlement chain. In particular:

    - Where there are close relationships between exchanges and clearing or settlement organisations they should not give rise to distortions in pricing nor should they impede competition between exchanges.

    - Clearing and settlement organisations should be required to agree and adopt standard protocols for accessing their services. Over time non-adoption of industry standards by clearing and settlement organisations should be seen as a barrier to entry to their services. These standards should be developed and agreed on a Europe-wide basis (possibly with the assistance of new bodies – see 3 and 5 below).

3. The regulation of clearing and settlement organisations operating on a pan-European basis needs to be rationalised so that it supports the development of providers offering services across several countries. However, wherever possible, this should be achieved through regulators using their existing powers to work together or delegate responsibilities to each other. The alternative, of waiting for the adoption of new legislation, is likely to delay progress.

B. *The users of clearing and settlement services* must live up to their responsibilities:

1. Users must make user governance work. Where clearing and settlement organisations have a natural monopoly – which is the case in most instances – there need to be stronger measures in place to ensure that they operate in the interests of their customers, whether they are user-owned or shareholder-owned. Ownership by users by itself does not ensure good user governance. It also requires good corporate governance. This requires the commitment of time by senior, experienced executives, their assertion of their rights as users and an openness by the management of providers to listen to and accept the views of users. The broad community of users should be represented on the governing body in a fair and equitable manner.

2. Users need to be actively involved in the development of harmonised standards for settlement. This activity needs to be owned and driven by users, as they ultimately will pay the price of the absence of standards or reap the benefits of harmonisation. Those settlement providers which are not actively involved in current harmonisation projects should be pressed by their users to become engaged in standards adoption as soon as is practicable.

3. Users must find a way to present a united view of what they want. The lack of a single body to formulate and represent the views of the industry as a whole is a major problem facing the industry at the moment. There is a risk that this vacuum will of necessity be filled by the imposition of solutions by government, which may not be what the industry wants. An industry-led solution requires a European-wide industry body that can provide drive and energy to the harmonisation and rationalisation effort. It should not only agree European standards for clearing and settlement processes and access methods but also have much more involvement in ensuring that they are adopted. And if industry itself cannot create such a body then its creation must be stimulated by the European Commission. Users need to be able to back up their assertions about the benefits of consolidation with facts about the potential benefits to themselves and to the wider European economy.

If concerted and energetic action were to be taken on the lines we suggest above then there would be no need for a directive. We believe that lack of action on the lines above would almost certainly lead to an unstoppable demand for a directive. This would have two immediate effects: firstly, it would slow down any further action by the industry to reform itself (until they saw what form any directive might take) and, secondly, it would create a significant risk that over the five years or so it would take such a directive to be agreed and implemented numerous other tangential and peripheral issues would be imported into the drafting process with unintended consequences.

Everyone agrees this complex puzzle needs to be resolved. The test for a successful outcome will ultimately be whether or not investors across Europe can treat the whole of Europe as their home market. The result would be significantly increased liquidity in the equities and other products that finance European industry. This would not just benefit market intermediaries, but would also significantly enhance Europe's ability to allocate financial savings to productive businesses. This in turn would help to stimulate the sort of economic growth that the United States has enjoyed for many years and which the EU has so far dismally failed to emulate. It is a prize worth striving for.

Appendix A

The Giovannini Group - Cross-Border Clearing and Settlement Arrangements in the European Union (2001)

EXECUTIVE SUMMARY

This report is the first of two dealing with the clearing and settlement of cross- border - or more accurately cross-system - securities transactions in the European Union. The objectives of the report are to assess the current arrangements for cross-border clearing and settlement and to identify the main sources of inefficiency relative to the corresponding arrangements for domestic transactions. A second report, which will be published in mid-2002, will examine the prospects for the EU clearing and settlement infrastructure, with particular emphasis on public-policy aspects.

The clearing and settlement process is an essential feature of a smoothly functioning securities market, providing for the efficient and safe transfer of ownership from the seller to the buyer. The process involves four main steps, which are *confirmation* of the terms of the securities trade, *clearance* of the trade by which the respective obligations of the buyer and seller are established, *delivery* of the securities from the seller to the buyer and the reciprocal *payment* of funds. When both delivery and payment are finalised, settlement of the securities transaction has been achieved. Clearing and settlement of a securities transaction can involve intermediaries in addition to the buyer and seller and the complexity of the process is directly related to the number of actors involved. Accordingly, the greater role played by intermediaries makes the clearing and settlement of a cross- border transaction inherently more complicated than the corresponding process for a domestic transaction.

Cross-border clearing and settlement requires access to systems in different countries and/or the interaction of different settlement systems. Investors rarely access a foreign system directly and typically need to use intermediaries to this end. Three main intermediaries are available, i.e. a local agent (which is typically a member of the foreign CSD concerned), an international CSD or a global custodian (both of which provide the international investor with a single access point to national CSDs in various countries via direct membership of the relevant CSD or via a network of sub-custodians in the countries concerned). Less often, investors use links between their local CSD and the foreign CSD. The use of intermediaries in interacting with different systems increases the risk and cost for the cross-border investor and this cost rises with the number of different clearing and settlement systems that must be accessed.

Investor demand for foreign securities has increased sharply within the European Union since the introduction of the euro. However, the EU infrastructure for clearing and settling cross-border transactions remains highly fragmented. Although the infrastructure is consolidating, there remain across the Union a very large number of entities (e.g. 19 CSDs and 2 ICSDs) whose primary business is to play a role in clearing and settlement. In consequence, the pan-EU investor is required to access many national systems that provide very different types of services, have different technical requirements/market practices, and operate within different tax and legal frameworks. The additional cost that is associated with this fragmented infrastructure represents a major limitation on the scope for cross-border securities trading in the

Union.

Three types of additional cost can be identified in cross-border clearing and settlement. These are *direct costs* in the form of higher fees for the services provided, *indirect costs* in the form of extra back-office facilities that must be maintained or bought in from an intermediary and *opportunity costs* in the form of inefficient use of collateral, a higher incidence of failed trades and trades that are simply foregone because of the difficulties involved in post-trade processing across borders. For reasons of feasibility, the analysis in this report has been confined to the direct costs, although there is evidence to suggest that these constitute a relatively minor share of total.

A valid comparison of the clearing and settlement fees for cross-border and domestic securities transactions is precluded by the fact that the nature of the service provided varies from one provider to another. An alternative approach used in this report focuses on the per-transaction income of providers as a proxy for fees. The analysis reveals that the per-transaction income of the ICSDs, which process predominantly cross-border trades, is very much higher (about 11 times) than the per-transaction income of national CSDs, which process mainly domestic transactions. The extent of fragmentation in the EU clearing and settlement infrastructure means that the ICSDs (and presumably global custodians which similarly focus on cross-border transactions) must operate in a complex environment of multiple markets. While allowance must be made for issues of data comparability, it is difficult to avoid the conclusion that the cost differential between ICSDs and the national CSDs reflects the existence of barriers to efficient cross- border clearing and settlement within a fragmented EU infrastructure.

The Group has identified and listed 15 barriers to efficient cross-border clearing and settlement. The barriers have been categorised under the three headings of national differences in technical requirements/market practice (10), national differences in tax procedures (2), and issues relating to legal certainty (3). In considering the scope to remove these barriers, a distinction is made between those that can be addressed by the private sector alone and those that can be addressed only on the basis of government intervention. In this context, there is a consensus within the Group that the EU clearing and settlement landscape could be significantly improved by market-led convergence in technical requirements/market practice across national systems. This would provide for inter-operability between national systems and could deliver considerable benefits within a significantly shorter timeframe than that required for full system mergers. On the other hand, the removal of barriers related to taxation and legal certainty is clearly the responsibility of the public sector. Although many tax-related barriers would lose relevance if investors were free to hold their securities within their chosen taxation regime, there remains a convincing argument in favour of harmonising the procedures for securities taxation as a further means to facilitate the integration of EU financial markets. Barriers related to legal certainty reflect more fundamental differences in the concepts of underlying national laws and would appear more difficult to remove than barriers in the other categories. Nevertheless, a partial solution seems to be available in the proposed EU Directive on collateral management, which is reflected by work currently underway at the Hague conference on private international law.

In conclusion, it is clear that fragmentation in the EU clearing and settlement infrastructure complicates significantly the post-trade processing of cross-border securities transactions relative to domestic transactions. Complications arise because of the need to access many national systems, whereby differences in technical requirements/market practices, tax regimes and legal systems act as effective barriers to the efficient delivery of clearing and settlement services. The extent of the inefficiency that is created by these barriers is reflected in higher costs to pan-EU investors and is inconsistent with the objective of creating a truly integrated EU financial system. A list of such barriers is provided in this report and urgent action is now required to remove them.

Appendix B

The Giovannini Group - Second Report on EU Clearing and Settlement Arrangements (2003)

EXECUTIVE SUMMARY

This is the second report of the Giovannini Group on EU cross-border clearing and settlement arrangements and complements the first report published in November 2001 (hereafter referred to as the 2001 report). The Giovannini Group is composed of financial-sector experts - meeting under the chairmanship of Alberto Giovannini - to advise the Commission on financial-sector issues. The work of the Group on clearing and settlement is expected to inform Commission policy in this field and responds to a mandate received from Commissioners Solbes and Bolkestein. The 2001 report was a diagnostic exercise. The objective was to introduce clearing and settlement to the uninitiated reader, highlight the specific problems of *cross-border* clearing and settlement and to identify the source of these problems. The Group identified the source of the problems in 15 barriers - based in market practice/regulatory requirements, tax procedures and issues of legal certainty. In the time since the publication of the 2001 report, there has been little or no dissent from the identification of these barriers.

This second report attempts to provide solutions to the problems identified in the November 2001 report and has three main parts. The <u>first part</u> focuses on removing the 15 barriers and reflects a conviction within the Group that efficiency in EU clearing and settlement arrangements cannot be optimised within an environment of multiple regulatory, fiscal and legal regimes. Accordingly, a coherent strategy for removing the barriers is presented. This strategy has been derived on the basis of several considerations: (i) some barriers are more important than others and so there is a need to establish priorities; (ii) some barriers are inter-dependent so that there is merit in establishing a sequence for their removal that minimises the logistical effort and risk that may be involved; (iii) it is necessary to identify the specific action that is needed to remove each barrier and to identify who - private or public agent – is responsible for that action; (iv) the need for co-ordinated action in removing each barrier requires that a co-ordinator be identified in each case; and (v) there is a need to provide the necessary momentum and sense of urgency by establishing realistic but aggressive deadlines for removing each barrier.

The priority barriers - from the perspective of integration - are clearly those that restrict the location of settlement activities. If these are removed, investors can choose where to locate their post-trading activities and set in train a market-led integration of clearing and settlement arrangements across the EU. Removal of these barriers would encourage a significant increase in cross-border securities trade but, if other barriers remain place, there may be unacceptable levels of operational and legal risk. To avoid this outcome, an appropriate sequencing is required for removing the barriers - a sequencing that ends rather than begins with the removal of the "restriction barriers". This sequencing applies to the actual removal of barriers but not to preparatory work. In effect, preparatory work for removing each of the barriers will begin at the same time.

As far as the private sector is concerned, barriers relating to information technology and operating hours should be removed first. The removal of these two barriers would facilitate the removal of four other technical barriers relating to differences in settlement periods, in rules on corporate actions, in issuance practices and intra- day settlement finality. Barriers related to taxation and legal certainty should be lifted by national governments at the same time as these remaining technical barriers - ultimately paving the way for the safe removal of the restriction barriers.

For the removal of each barrier, the Group has identified the action required, the party responsible for that action and a deadline.

If the strategy for removing the barriers is credible, market participants can immediately prepare for life in a "barrier-free" environment. In such an environment, many of the obstacles to delivering efficient and integrated clearing and settlement arrangements for the EU - which seem insurmountable today - would be manageable. Although consolidation is not an inevitable feature of the integration process, some degree of consolidation is likely. The <u>second part</u> of this report deals with public policy considerations in the integration/consolidation of clearing and settlement providers in the EU and examines several models of integration in this context. Three such public policy considerations have been identified - cost effectiveness, competition and safety. Cost effectiveness is of interest to public policy as this is a central objective of the internal market, i.e. to exploit the integration of clearing and settlement arrangements so as to deliver economic benefits. The delivery of benefits to the economy as a whole – rather than to any sub-set of economic agents - requires an appropriate degree of competition. Competition implies freedom of access for both users and providers and the absence of any restrictive practices that might limit the extent of or distort competition among providers. If competition cannot be assured, then more regulation-based solutions might be appropriate. Finally, integration of clearing and settlement arrangements must be consistent with a desired level of systemic stability.

The various possible models of integration/consolidation affect these public policy considerations differently. As it is not feasible to cover all possible models in this report, a representative subset has been chosen. Each of the (three) models chosen implies a progressively higher degree of consolidation and has been examined in the context of the public policy considerations identified. The analysis in this section shows clearly that alternative structures could emerge in the consolidation process, and that an ex-ante assessment of these structures does not lead to a preferred solution, without much more clarity on the type of regulatory environment that will be needed to support integration and consolidation. However, the analysis provides practical guidance on the kind of issues that such a regulatory environment will need to address. The Group believes that, to build a system of clearing and settlement that constitutes a strong pillar of a truly integrated and liquid European financial market, a clear drive towards the elimination of barriers will have to be accompanied by a regulatory/supervisory structure which can function effectively on a pan-EU basis. With this set of conditions in place, the convergence towards the most efficient structure will occur rapidly and without disruptions.

The <u>final part</u> of the report addresses the next steps required for integrating EU clearing and settlement arrangements and highlights the role of national governments. The Group believes that market participants should play the greatest role possible. However, the fundamental importance of clearing and settlement to the functioning of securities markets imposes a special responsibility on the public sector in promoting the integration process. In this context, the Group believes that progress cannot be achieved without the strong commitment of national governments and the EU Commission.

Appendix C

Background Note by the Securities Industry Association on the Organisation in the US Market for Clearing and Settlement (extracts)

Prepared by the Cross-Border Subcommittee of the Securities Industry Association
For the European Commission

1. What were the market circumstances when the DTCC was created?

The Depository Trust & Clearing Corporation (DTCC) is a holding company formed in 1999 to consolidate under the same corporate ownership the clearing and settlement infrastructures in the US - the central counterparty National Securities Clearing Corporation (NSCC), and central securities depository The Depository Trust Company (DTC).

The integration of NSCC and DTC was driven by market necessity. While the complementary functions of these two institutions resulted in many collaborative efforts over the two decades of their separate existence, by the late 1990's deregulation and evolutionary changes in the US financial industry meant that as both companies extended their services beyond their core functions, they were, in some cases, beginning to overlap and in danger of creating unnecessary conflicts, complexity and costs for their industry constituents.

The integration resulted in a holding company with two separate operating subsidiaries, recognizing the different products and services, regulatory requirements and risk profiles of clearing and settlement organizations. The three legal entities (the holding company and its two operating subsidiaries) share an executive management team and a single slate of directors. Centralized corporate services (i.e. legal, finance, auditing, etc.) support all three entities.

In the European context, it may prove helpful to examine the creation and evolution of NSCC and DTC, in addition to the formation of the holding company DTCC.

Early Enabling Legislation In 1961, twelve years before the establishment of DTC, the New York Stock Exchange (NYSE) together with several major custodian banks had already successfully run a one-year "Pilot Operation for Central Handling of Securities". Beginning with 15 securities and 31 firms, deliveries were made between members via book-entry and without the physical movement of certificates. Legislative changes were then initiated in order to prepare for a centralised service for all issues listed on the NYSE. In 1962, the process to amend Article 8 of the Uniform Commercial Code (UCC) was started in all the states, in order to sanction the transfer of ownership or pledge of securities by depository book-entry in lieu of delivering physical certificates. The last state's amendment was obtained in 1970.

Crisis as Catalyst The paperwork crisis in the securities industry that developed in the late 1960s served as the catalyst that accelerated the immobilisation and book-entry transfer of securities by a central service provider. At that time, brokers still exchanged physical certificates and checks for each trade, while hundreds of messengers scurried through Wall Street clutching bags of checks and securities. A sharp increase in trading led to a growing number of trades to fail. The paperwork crisis was so severe that, in order to help reduce the backlog, the exchanges closed every Wednesday and shortened trading hours on the other days. In 1968, the Central Certificate Service was established by the NYSE to immobilize share certificates, and the foundation of a national depository system had begun to take form.

By the beginning of 1970, numerous studies of the problems of the US securities industry were under way. A common conclusion was that long-term solutions would require market-led efforts, and an inter-industry organisation, the Banking and Securities Industry Committee (BASIC) was formed. BASIC acted on a number of projects to reduce the costs and improve the process of securities operations, the most significant of which was the establishment of a Comprehensive Securities Depository System (CSDS), expanding on the NYSE's Central Certificate Service. Regional markets and banks soon joined in the process and a National Coordinating Group was formed.

Beginnings in Vertical Silos NSCC and DTC were originally set up by the NYSE, the American Stock Exchange, and National Association of Securities Dealers (NASD). Other regional stock exchanges, such as those in Boston, Philadelphia, Chicago, etc. each owned its respective clearing and settlement vehicles. In 1975 there were seven vertical silos. Although industry participants favoured consolidation of clearing and settlement arrangements, the exchanges opposed unless theirs was the surviving institution.

National Market System - a Public Policy The paperwork crisis and other problems within the securities industry in the late 1960's prompted the passage of the Securities Acts Amendments of 1975 to promote a unified national market in trading, clearing and settlement. Congress directed the Securities and Exchange Commission (SEC) to facilitate the establishment of the unified national system that would have five objectives: efficiency, competition, price transparency, best execution and order interaction.

Congress' policy was not to mandate a fixed market structure but to use the five objectives to guide a comprehensive but flexible regulatory approach. The SEC, however, was less concerned about competition among infrastructure providers than ensuring that there was an efficient, robust national infrastructure. CCPs and CSDs were required to apply for SEC registration as clearing agencies, the first time that these entities were regulated. Regulated free interfaces between regional infrastructures were to form the heart of the national market system.

It is worth noting that the SEC was able to promote a national system for clearing and settlement while leaving open the possibility for any organisation wishing to compete. Any trading space wishing to clear and settle without going directly to the national infrastructures is free to do so as long as it meets the standards set by the SEC. In addition, any organisation can apply for approval and registration as a clearing agency (although in the cash equities markets no new entrant since the late 1970s has so far chosen to do so, and the existing entities have been consolidated and integrated).

Horizontal Consolidation During 1976-7, about a year after the SEC released a report on the cost savings that CCP consolidation would bring to the market, the NSCC was formed through the merger of the individual CCPs of the NYSE, the American Stock Exchange and NASD.

Also in the same year, all CSDs affiliated with the individual stock exchanges were interlinked to form a national system. This was accomplished by CSDs opening accounts with each other. Market participants could then trade the stock of a company on any exchange and hold their shares in their home CSD, by an arrangement called "one account settlement". When new shares were issued, the underwriter would put the issue into the CSD of its choice. The shares would then be transferred, via book entry at this CSD, to the account of a primary market subscriber's home CSD. Subsequent secondary market trading would settle similarly by book entry.

The regional stock exchanges' vertically-integrated CCPs and CSDs were gradually absorbed into NSCC and DTC respectively, a twenty-year process that began in 1976 and ended with the last integration taking place in 1997.

Vertical Re-Integration of CCP and CSD NSCC and DTC subsequently became subsidiaries of DTCC in 1999. The equities market structure today consists of competing stock exchanges and trading platforms that are required to make market information publicly available on terms that are fair and reasonable, but a single CCP and a single CSD under common ownership serving the national equities market. As covered in Section 5, it should be noted that equities have been only one of a wide range of financial instruments and markets supported by DTCC subsidiaries, in particular fixed income, some from the beginning and others over time.

2. What are the main differences between those circumstances and the current ones in Europe?

The main differences in the circumstances that led to the consolidation of clearing and market infrastructures in the US versus the current ones in Europe include the following:

Single Country Although there are both state and federal laws, and tax rates that are not the same in every state, the US is nonetheless one country with one currency. Relatively speaking, consolidation was more straightforward. Still, the 50 different state laws have from time to time posed challenges, as with revisions to Article 8 discussed above.

Single Securities Regulator, Common Regulatory Framework In 1975, the US Congress made a firm and clear public policy to create a unified national market, with a single securities regulator directed to facilitate its establishment. The Congress set five policy objectives, and the SEC used a comprehensive and flexible regulatory approach to establish, monitor, and strengthen a regulatory environment that gave the forces of competition sufficient room to flourish. Although competition forces were allowed to shape market structure, a single regulator exercised its regulatory authority to act when necessary to address problems or practices that could stand in the way of achieving the objectives that Congress had set for the national market system. Where competition might not be sufficient, the SEC was empowered to act promptly and effectively to ensure that the rules and essential mechanisms were put in place as rapidly as possible. The SEC was also in a position to prompt, encourage and facilitate the securities industry to create solutions that furthered the unified national market objectives. Because the SEC's mandate from Congress spanned all three securities market functions of trading, clearing and settlement, it could take action in a holistic manner that fulfilled the national market objectives.

Central providers of clearing and settlement services (CCPs and CSDs) had to register with the SEC as registered clearing agencies and registered transfer agents, and be subject to common regulations. The common regulatory framework put in place since 1975 facilitated the consolidation which gradually happened over the next twenty years.

When the SEC granted permanent registration status to the clearing agencies and transfer agents, it was primarily concerned with a robust infrastructure for the unified national market system. The SEC paid considerable attention to the agencies' provisions for participants' fair representation and due process. It looked at each agency's governance proposal individually, and was more concerned with the objective of good governance - who controlled each one, due process, etc. and not whether it was able to compete with the others.

Main differences with Europe: In Europe, there is no empowered legislature to espouse an EU- wide system equivalent to the US national market system. A common regulatory framework in the European context is generally taken to mean the home country principle to facilitate competition across national borders. EU-wide minimum safety standards and governance objectives might not necessarily be considered to fall within the scope of a common regulatory framework.

Dominant Market Centre The fact that there was one predominant market centre - New York - is significant in three respects. First, the New York market's clearing and settlement infrastructures had the economies of scale to invest in technology, and provided a low marginal cost foundation for national consolidation. Second, because of the large number of issuers whose shares were listed on the NYSE, legislative changes that enabled the formation of the CSD for that market had to be made by every state, paving the way for national legal harmonisation. These changes included the fiduciary laws of many states limiting the form and means of holding securities in certain capacities, and Article 8 of the UCC which then effectively limited ownership of depositories to security exchanges and associations (which would limit the full participation of banks). Third, the infrastructures in New York, NSCC and DTC, acted as the leader in the national standardisation of services and market practice.

Main differences with Europe: There are three main trading centres: Euronext, Deutsche Börse, and the London Stock Exchange. The proposed takeover of the London Stock Exchange, if it materialises, might create a similarly dominant market centre.

Homogeneous, Market Utility Business Model The regional CCPs and CSDs in the US were owned by stock exchanges and focused on their core function of providing a central service for their respective markets in clearing and settlement. NSCC and DTC were created at a time when stock exchanges and central service providers in clearing and settlement were typically not- for-profit market utilities owned by users. The ownership and governance of NSCC and DTC were from the outset those typical of market utilities. The NYSE, which owned the predecessor of the DTC, offered DTC stock to users in proportion to their usage. Although DTC has a trust company charter under New York State banking law and Federal Reserve membership, it used these initially to bolster its status with custodian banks and increase their confidence in depository custody, and later to open a central bank account in order to support so-called "same-day" (immediately available) net funds settlement, replacing net settlement by paper checks. DTC did not combine infrastructure CSD and commercial banking services.

Main differences with Europe: The homogeneous business model made the consolidation of market infrastructures in the US more straightforward than the current situation in Europe, where different ownership structures and business models bring competition issues to the forefront when consolidation happens. European trading, clearing and settlement infrastructures are mostly for- profit; some are user-owned, others are shareholder owned and either privately held or publicly traded. The controversy in Europe over CCPs revolves around whether an exchange that owns one has an unfair competitive advantage - derived from cross-subsidisation - over an exchange that must rely upon an unaffiliated CCP, potentially one owned or controlled by the competing exchange. The controversy over CSDs in Europe revolve around (a) whether a bank has an unfair competitive advantage - derived from leveraging and bundling - over competitors when it owns or is affiliated with a CSD, (b) how much separation or transparency is needed between the competitive and infrastructure services, and (c) whether there are sufficient safeguards against abuse of dominant position.

Separate Infrastructures for Cash and Derivatives Markets Derivative financial instruments were quite new in the 1970's when the unified national market system was conceived. The options market built a single CCP owned by multiple exchanges from the outset; the exchanges that started trading options did not have existing options CCPs to protect. The financial futures market developed more slowly; not only was it in Chicago (not in New York), but it was also outside the jurisdiction of the SEC. The focus of consolidation at the time was therefore on the cash equity market alone. Government bonds and mortgage-backed securities are not held in DTC but in another national CSD, the Federal Reserve Bank.

Main differences with Europe: In Europe, the cash and derivatives markets are usually in the same financial centre in each country, making common ownership from the outset or via mergers easier to accomplish. Also, government bonds and equities are usually immobilized in the same CSD. The unified clearing of all financial instruments, which can bring significant benefits to market participants not only in the form of lower and optimized clearing fund contributions but also improved regulatory reporting and surveillance, is easier to achieve in national markets in Europe than in the US.

Cross-border Services not Policy Priority Of \$28 trillion worth of securities on deposit at DTC, about \$2.8 trillion-worth are securities (mainly global bonds and shares) from non-US issuers, and another \$500 billion-worth is in the form of ADRs which also represent securities of non-US issuers. That said, DTCC has a primarily US-domestic focus. DTCC users benefit from economies of scale for all securities which are held and settled at DTC, but often use an entirely separate middle- and back-office infrastructure for transactions in the rest of the world.

Main differences with Europe: In Europe, the policy direction is to remove barriers for national market infrastructures to provide cross-border services within the EU, with the objective of using competition among market infrastructures to drive intra-EU cross-border access costs down for the infrastructure users. Expansion of cross-border services beyond the EU is not a priority, either.

3. What were the arguments used in favour and against the creation of such a system?

<u>Arguments Used in Favour</u>:

Regulatory Concerns The paperwork crisis of the late 1960's generated a deep concern within Congress and the SEC. Beginning in 1970 a series of hearings were conducted by US Senate and House of Representatives sub-committees and the SEC. After several years of intense discussion and debate over the vision of a national securities market system and its regulation, the Securities Acts amendments of 1975 were passed to create a unified national market system.

Efficiency The paperwork crisis brought the whole securities industry together, out of self- interest, to find a common solution to achieve efficiency. Banks, brokers and stock markets worked together in BASIC, the inter-industry organisation formed in 1970 that determined the DTC's characteristics and an acceptable corporate structure and management. BASIC's efforts to establish the CSDS proceeded despite the legal uncertainty in the first few years of its work.

<u>Arguments Used Against</u>:

Revenue Protection Opposition to consolidation, also out of self-interest, came from the infrastructures.[11] Despite clear and compelling evidence of reduced costs, the infrastructure entities which would be absorbed into a single national system opposed the elimination of even one CCP. In most cases the CCPs accounted for a significant component of the revenue of their affiliated exchange, and both the exchanges and the CCPs opposed any integration unless theirs was the single remaining institution.

When the NYSE, American Stock Exchange and NASD finally agreed to merge their CCPs to form NSCC in 1976-7, the affiliated exchanges received a per-trade fee for several years to compensate them for revenues lost after the merger. The other regional markets' concerns about competition issues (e.g. predatory pricing) were addressed via free interfaces between registered agencies.

By the mid-1980's, as multiple market structures became less accepted as an inevitability, the divestment of the CCPs and the CSDs from the remaining vertical silos and their consolidation into NSCC and DTC went under way.

Anti-trust Dangers During the early years of the implementation of the unified national market system, the SEC was unsuccessfully sued by a service provider to NSCC, who challenged the SEC's temporary registration of NSCC and the latter's failure to solicit competitive bids for a service contract. The court found that competition at the clearing level was of secondary importance to an efficient, robust infrastructure. In "balancing" the anti-trust dangers with the goal of a single national system, the court considered that the goal of the 1975 Securities Acts Amendments was to create the environment for effective competition among brokers, to the benefit of their investor customers, and not competition among clearing systems or their service providers.

[11] Banks and brokers were supportive of efficiency gains from consolidation.

4. (omitted)

5. Have there been important changes in the structure of DTCC?

National Market System The most dramatic change in the early years was the establishment of the unified national market system concept, including national clearing and settlement, in the Securities Acts Amendments of 1975. Clearing agencies (including depositories) were then regulated for the first time. Since then, there had been a steady evolution in the scope of activities undertaken by NSCC and DTC. They were separate companies until their integration in 1999 under DTCC. The creation of the holding company DTCC gives the group more flexibility in expanding into non-regulated services as well as acquisitions.

Expansion in Instruments and Domestic Transaction Services In answer to industry needs for greater synergies, cost reductions and efficiencies in the post-trade processing of all securities, DTC expanded continuously the number and types of securities it handles. In addition to equities, it processes corporate and municipal bonds, American and Global Depositary Receipts, collateralized mortgage obligations and exchange-traded funds, as well as commercial paper and other money market instruments. More than 2.5 million securities issues are now DTC-eligible.

- In its very early years, DTC introduced Institutional Delivery (ID), an electronic <u>trade affirmation</u> hub service that coordinates among investment managers, brokers and custodians which support institutional investors' trades from execution through settlement and custody. This was the service that DTCC eventually spun-off into the Omgeo joint venture with Thomson Financial ESG.

- DTC has long provided centralized and comprehensive <u>asset services</u>. These include custody, securities distribution service for new issues, reorganizations (such as stock splits, spin-offs, bankruptcies, conversions, exchanges, mergers and tender offers), dividend and interest payments, redemptions, and US tax withholding.

- DTCC also more recently created non-regulated subsidiaries to provide a variety of <u>post-trade</u> <u>processing</u> services, such as Global Assets Solutions LLC which offers services such as corporate actions validation and messaging, and DTCC Deriv/SERV LLC which offers an OTC derivatives processing solution.

- NSCC offers two non-CCP services which are central and automated service extensions that leverage its wide customer base of brokers with similar needs. Its mutual fund services include: standardized formats for, and centralized processing of, mutual fund purchases, redemptions, exchange orders and account registrations, automated and centralized exchange of customer account information between fund companies and their distributors. Its <u>insurance services</u> include: automated annuity and life insurance application processing, premium payment and financial reporting, linking insurance carriers with broker/dealers, banks and trust companies through one automated, centralized, nationwide system. Both these services leverage on economies of scale of a wide customer base with similar needs for automated processing.

- NSCC indirectly provides a service to retail investors through its <u>customer account transfer</u> service, which moves any asset held in customer accounts from one broker to another.

Expansion in Cross-Border Services A number of services were developed in response to specific user demand.

- DTC has securities accounts at several foreign CSDs, inter-market links that allow its users to settle foreign securities. These include the Canadian, German, and Swiss depositories. The Canadian service was set up initially to facilitate the settlement of Canadian shares that are traded OTC in New York. The German and Swiss arrangements were set up initially for several non-US issues listed and traded in US dollars on the NYSE (e.g. the German company Daimler Chrysler, Swiss company UBS). Similarly, a dozen CSDs from around the world have direct accounts at DTC.

- A "global clearing network" service set up in the 1980's is still in operation but usage is low. This service provides DTC users who desire a standardised communication format to use the DTC standard when they access foreign markets. DTC provides a messaging interface only; the users enter into direct custody and clearing agreements with agent banks in the foreign markets.

- In 2002 DTCC absorbed the Emerging Markets Clearing Corporation (EMCC) which was a specialised central counterparty for emerging markets debt. Due to low market demand the EMCC has since been wound down.

- The European Pre-Issuance Messaging (EPIM) service was developed for the issuance of European commercial paper in partnership with Clearstream Banking Luxembourg and Euroclear Bank. This service leverages technology used in the US market to bring efficiencies to the European securities market infrastructure.

- Omgeo is a joint venture between DTCC and Thomson Financial that provides matching and trade reporting services for institutional investors' trades worldwide, including the successor to the ID service originally introduced by DTC in 1974. Omgeo has specific relevance in that its significant market share and potential in the marketplace drew intense regulatory review. An SEC order defined a set of principles to govern interoperability between Omgeo and potential competitors requiring fair and reasonable linkages that are transparent to customers. To assure competition and to permit customers to choose a single matching service, the principles call for use of industry standard formats and protocols, prevent a matching service from using intellectual property to eliminate competition, prohibit interface surcharges, set out interface pricing principles, and provide strict guidelines for linkage implementation. In addition, the SEC order requires Omgeo to maintain high standards of safety and soundness, and calls for neutral industry involvement in the negotiations between Omgeo and potential competitors. The SEC intends to impose these conditions on all central matching services that obtain an exemption from registration.

Continued Enlargement and Rationalization In 2002, the DTCC holding company further integrated three additional CCPs which service US government securities, mortgage-backed securities, and emerging market debt respectively: MBS Clearing Corporation, originally founded in the late 1970s; the Government Securities Clearing Corporation, founded in 1986, and Emerging Markets Clearing Corporation, founded in the mid-1990s.

DTCC has also discontinued services when market conditions caused a drop in demand for DTCC services. As mentioned above, the Emerging Markets Clearing Corporation has recently been wound down, due to lack of market activity. Settlement of mortgage-backed securities, which were eligible securities both in DTC and the Federal Reserve, has been shifted to the Federal Reserve.

6. What are the strongest and weakest points of such a system?

Strongest Points:

- A consolidated service provider which has the ultimate scale economies in serving the principal securities market in the US, that is neither motivated by profits nor share price. Constant reduction in customer costs is achieved through an at-cost operating mentality and a policy to return excess revenues to users in the form of discounts and rebates. Nevertheless, the focus is not only on price efficiency but also on operational risk management, robust business continuity arrangements, investor risk and compensating safeguards.

- The average fee paid by dealing firms for settling an equity transaction, US$ 4.3 cents (€ 3.3 cents), is perhaps the lowest in the world.[12] For the last five years, around USD 200 million, or 20% of revenues, has been returned each year to the industry.

- The Board of Directors is composed almost entirely of customers. This leads to many benefits that are often otherwise derived from competition.

- "User-pays" transparency and an equitable pricing policy, which aligns fees with the cost of services provided, and which maintains a desired balance in revenues and margins between NSCC serving mainly brokers, and DTC serving mainly investors.

- Owned by its customers.

- Each DTC and NSCC participant is free to choose its own cash settlement agent that provides the best liquidity and credit services with the most competitive price and conditions. Credit risk taking is spread among a large number of banks.

- DTC has an account at the Federal Reserve and participants or their cash settlement agents settle NSCC and DTC transactions with finality in central bank money. Although each participant is still exposed to its cash settlement agent with whom it holds cash balances, there is a choice of settlement agents and no concentration of credit exposure.

- No significant profit-generating services in fails coverage, securities or cash lending.

- All the above, and in addition strong corporate governance, operational risk management and financial safeguards to protect the organisation from member loss, contribute to a AAA/A-1+ credit ratings from Standard & Poors for long- and short-term debt.

[12] This average figure, based on full-year 2003, divides NSCC's total billing of all fees to participants after discount, by all transactions in equities, mutual funds and corporate and municipal fixed income.

Cautionary Notes on the Replication of US Market Features in Europe:

- As the single market infrastructure, significant costs are required to manage operational risk and to have in place robust, fail-proof redundant continuity of business arrangements.

- The tendency of the board might be to emphasize the needs of the largest users or the widest mutual needs of all users, though the DTCC Board balances this by including smaller firm participants as well. In the absence of financial performance pressures typical of for-profit organisations, unless special effort is made, new and growing specialised needs may be overlooked, resulting in under-investment for the future.

- Operating on an at-cost basis predisposes the company to rely mainly on organic growth.

- Network effects, high fixed costs in IT infrastructure and economies of scale reduce the likelihood of new entrants in the domestic infrastructure role.

- Common ownership of the historically separate CCP and CSD can yield cost efficiencies through shared facilities only up to a point. Investments by both the market infrastructure and its participants are needed to maximize the benefits, such as a common communication interface. However, the investment expense may not be equitable to all participants.

- Absence of national law prohibiting physical certificates results in perpetuation of costs and risks in the continued existence of physical securities that are not dematerialised or immobilized in the CSD.

- The fragmentation of the infrastructures serving cash and derivatives markets is not optimal. This is a consequence of differences in the timing of market development, the financial centres where these markets flourished, and separate regulators.

Appendix D

Joint statement by the London Investment Banking Association and Other Trade Associations on Post-Trade Infrastructure

LIBA
AFEI ASSOSIM FBF SSDA
PRINCIPLES TO BE APPLIED TO THE CONSOLIDATION OF STOCK EXCHANGES AND INFRASTRUCTURE PROVIDERS IN EUROPE

A. OVERALL OBJECTIVE

To promote the further healthy development of the European Capital Markets, they must achieve over time the lowest overall costs of trading and post-trade services combined with the greatest responsiveness to users' and customers' needs.

The term "overall costs" means the total end-to-end cost of trading, clearing and settlement; and the internal costs incurred by market users when purchasing those services, including their costs of associated investment.

B. PRINCIPLES FOR TARIFF AND RELATED POLICIES OF EXCHANGES AND INFRASTRUCTURE PROVIDERS.

At all times, tariffs and terms of business should be so designed and implemented that:

(1) Exchange and Infrastructure providers (owners) are able to earn a reasonable return from operational and market efficiency, and innovation. Improvements in costs and quality beyond that level of return should be shared with market users.

(2) a) Pricing should be transparent; based on published tariffs; and be properly related to production costs;

b) vertically integrated organisations should charge separately for trading, clearing and settlement;

c) Different categories of security may call for different tariffs, for example cash equities and derivatives;

d) users should benefit from fair access to the infrastructure;

e) terms of business should reward/encourage members who bring liquidity to the market;

f) Owners should collaborate actively with all market participants to improve the range and quality of services provided to the market place;

g) Rules on the management of risk, crises, market interruption and similar issues must be transparent; and include proper arrangements for the liability of infrastructures.

(3) Market users should be consulted sincerely and well in advance about changes in tariffs and terms of business, and development projects.

C. GENERAL PRINCIPLES FOR THE EVOLUTION AND CONSOLIDATION OF THE TRADING MARKET PLACE

1) Providers of Trading, Clearing and Settlement Services must seek to minimise market users' costs over time. The term "Users' Costs" includes not only the charges of service providers ("direct costs"), but also the internal expenses incurred by the market in purchasing their services, including the market's costs of investment.

2) To give effect to the commitment to falling costs and involvement in proposed changes in services, owners should adopt robust and durable systems of corporate governance which give users an appropriate and effective voice and influence. Governance should reflect both the pattern of ownership and the composition of the users in the markets which the organisation serves.

   a) Central Clearing and Settlement Services should be provided by organisations whose ownership, governance and resource allocation procedures are designed to ensure that users' interests are given a top priority.

   b) Central Clearing and Settlement Providers should be owned by users, broadly in proportion to usage.

   c) Where possible Trading Platforms and Central Clearing and Settlement operations should be owned separately.

   d) Where there is the same ownership of Trading, Clearing and Settlement, there must be effective separation, so that all conflicts are effectively handled in a way which commands market confidence.

   e) Methods which would contribute to such segregation/separation include:

      - separate companies with their own distinct constitutions;
      - total separation of financial accounts;
      - total separation of technical platform;
      - systematic avoidance of transfer pricing and cross-subsidy;
      - periodic external audit and review by independent and respected entities; and
      - appropriate oversight, if needed, by National and International Regulatory Authorities.

   f) The organisation for settlement must serve users on fair terms.

   g) Exclusive arrangements between trading platforms and CCPs and between CCPs and CSDs can only be justified on grounds of efficiency and investor protection.

D SPECIFIC PRINCIPLES NEEDED IN PRESENT CIRCUMSTANCES

(1) Proposals for change arising in the present corporate actions should:

a) be designed to promote and deliver further market efficiency through standardisation, harmonisation and inter-operability and, where appropriate, further consolidation.

b) Contribute to competition between trading platforms by ensuring:

i) low switching charges for users wishing to move from one trading platform to another;

ii) fair access to Clearing and Settlement Systems for new entrants wishing to compete with incumbent trading platforms.

iii) that providers of Clearing and Settlement Systems are able and willing to invest in systems, procedures and capacity -including connections between Clearing and Settlement Systems – which providers of trading services may require.

(2) Decisions that a given exchange should change central counter party or settlement provider/location should be taken by common agreement between users and owners of trading platforms.

(3) Proposals for change must strike a careful and appropriate balance between:

(a) Limiting wasteful, duplicative investments; and

(b) Recognising the costs to users of a move away from established systems and procedures.

Bibliography

Commission of the European Communities, (April 2004), *Communication from the Commission to the Council and the European Parliament - Clearing and Settlement in the European Union - The Way Forward*, http://europa.eu.int/eur-lex/en/com/cnc/2004/com2004_0312en01.pdf.

Competition Commission, (November 2005), *A Report on the Proposed Acquisition of London Stock Exchange plc by Deutsche Börse AG or Euronext NV,* http://www.competition-commission.org.uk/rep_pub/reports/2005/fulltext/504.pdf.

de Carvalho, C.H., (2004), *Cross-Border Securities Clearing and Settlement Infrastructure in the European Union as a Prerequisite to Financial Markets Integration: Challenges and Perspectives*, Hamburg: Hamburg Institute of International Economics http://www.hwwa.de/Publikationen/Discussion_Paper/2004/287.pdf.

Euroclear, (June 2005), *Business Model and Harmonisation Newsletter*, http://www.crestco.co.uk/publications/business-model/Convergence-Issue3.pdf.

European Central Securities Depositories Association, (2004), *Response to the Giovannini Report,* http://www.ecsda.com/attachments/working_groups/harmonization_(wg5)/first_ecsda_response_to_the_second_giovannini_report.pdf.

European Central Securities Depositories Association, (2002), *Report of Working Group 5 on Cross Border Corporate Actions and Events Processing*, http://www.ecsda.com/attachments/working_groups/harmonization_(wg5)/ca_reportnov2002%5B1%5D.pdf.

European Central Securities Depositories Association, (May 2005), *First Annual Status Report Relating to its Standards for the Removal of Giovannini Barriers 4 and 7*, http://www.ecsda.com/attachments/publications/wgspublications/harmonisation/ECSDA%20final%20report%20of%20WG5%20on%20Barriers%204%20&%207.pdf.

European Central Securities Depositories Association, (June 2005), *Response to the Giovannini Report Barrier 3, Corporate Actions – Part 1 Mandatory Distributions*, http://www.ecsda.com/attachments/publications/wgspublications/harmonisation/ECSDA%20final%20Report%20of%20WG%205%20on%20barrier%203-%20Giovannini%20Corporate%20Actions.pdf.

European Financial Services Round Table, (June 2005), *On the Lead Supervisor Model and the Future of Financial Supervision in the EU – Follow-up Recommendations of the EFR*, http://www.efr.be/members/upload/news/22676EFRlsvfinal-June2005.pdf.

Giovannini Group, (2001), *Cross-Border Clearing and Settlement Arrangements in the European Union,* http://europa.eu.int/comm/economy_finance/publications/giovannini/clearing1101_en.pdf.

Giovannini Group, (2003), *Second Report on EU Clearing and Settlement Arrangements*, http://europa.eu.int/comm/economy_finance/publications/giovannini/clearing_settlement_arrangements140403.pdf.

Group of Thirty, (January 2003), *Global Clearing and Settlement – A Plan of Action*, Washington: The Group of Thirty.

London Economics, commissioned by the Competition Directorate General of the European Commission, (June 2005), *Securities Trading, Clearing, Central Counterparties and Settlement in EU 25 – An Overview of Current Arrangements,* http://europa.eu.int/comm/competition/general_info/securities/report_june_2005_en.pdf.

McCreevy, C., European Commissioner for Internal Market and Services, (September 2005), Speech*: Fund Management – Regulation to Facilitate Competitiveness, Growth and Change,* http://europa.eu.int/rapid/pressReleasesAction.do?reference=SPEECH/05/503&format=PDF&aged=0&language=EN&guiLanguage=en.

NERA Economic Consulting, (June 2004), *The Direct Costs of Clearing and Settlement: an EU-US Comparison*, Corporation of London http://www.cityoflondon.gov.uk/NR/rdonlyres/0A6216E8-6153-44F3-B1EA-55FFA4CB19C2/0/BC_RS_clearsettle_0406_FR.pdf.

Schmiedel, H. and Schönenberger, A., (July 2005), *Integration of Securities Market Infrastructure in the Euro Area*, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=752093.

Securities Industry Association, (May 2005), *Background Note on the Organisation in the US Market for Clearing and Settlement for the European Commission*, New York: SIA.

S.W.I.F.T, (October 2005), *Elimination of Giovannini Barrier 1: Draft Protocol Recommendation*, http://www.swift.com/index.cfm?item_id=57993.

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