

# The challenges of integration in Europe

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Alberto Giovannini<sup>1</sup>  
*Unifortune Asset Management*

## 1 Introduction

IN EUROPE, THE FINANCIAL SYSTEM plays a central role in economic development. The essential functions of the financial system are the allocation of resources towards the most productive uses, and the allocation and optimal distribution of economic risk. Through these functions, the financial systems contributes to reward the most productive sectors of the economy, and to phase out the less productive sectors. It also helps re-cycle capital and labour employed in less productive sectors. It is apparent that the evolution of EU societies and economies from regimes characterized by state intervention to market economies (an evolution that is, arguably, incomplete) requires an efficient financial system to take up roles that in the past were carried out by governments, often with disappointing results.

Yet, the current structure of the financial system in the EU is faulty. The EU financial system does not really exist as a single, integrated entity. It is rather the sum of national financial systems. Of course, national financial systems are not isolated from each other, in the sense that there is almost complete free trade in financial assets and financial services across the different member states. However, it is important to make a distinction between the absence of prohibition to trade with other EU member states, and the presence of hindrances and costs to cross border trade. These hindrances are very often unintended, as they represent an inheritance from a not-so-distant past: they originate from the largely national

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<sup>1</sup> This article draws on my work as an advisor to the EU Commission in the area of post-trading. Many of the ideas in this article were developed previously and appear in Giovannini, Berrigan and Russo (2006). I am very grateful to Sean Berrigan, Godfried de Vidts, Mario Nava, Daniela Russo and David Wright for having clarified my ideas on these issues over many years of work together.

nature of financial intermediation in European countries which were until recently isolated from each other by the prohibition to cross-border trade in assets and financial services. Nationality is reflected, well beyond the use of different languages (an issue that is of second-order importance in finance), in the use of different technical standards, market conventions, rules and regulations that are country-specific.

The EU Commission and the European Central Banks are the most powerful sponsors of an integrated, efficient EU financial system. Their sponsorship originates from different, though related, incentives that drive the two institutions. In the case of the EU Commission, the desire to build an integrated and efficient financial system stems from the desire to support economic development by eliminating all barriers to trade, explicit or implicit. In the case of the European Central Bank, an efficient and integrated financial system represents an essential pillar for macroeconomic stability in the region where its mandate extends; in addition, a well-working financial system is a key enhancer of its own monetary policy tools aimed at controlling liquidity in the region and, indirectly, affecting inflation and inflationary expectations.

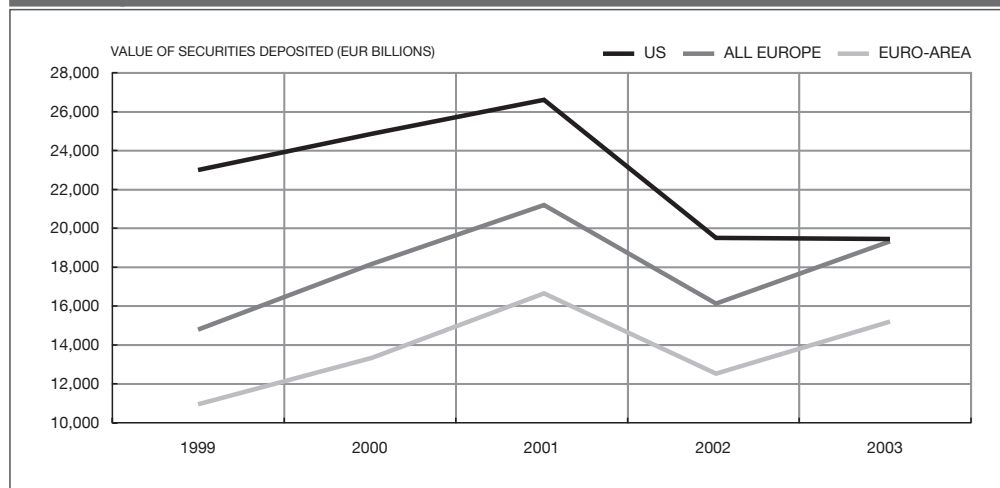
The purpose of this paper is to describe the process of construction of the EU financial system from the perspective of its foundations: the functions of clearing and settlement of securities. Because the status quo is characterized by inconsistent standards, conventions and rules, the process of reform is necessarily one of liberalization, through the elimination of these inconsistencies, which represent barriers to cross-border securities trade. There are a number of complicated, and interesting, aspects of this process. First, it has to operate across two different dimensions: the various member states and the different institutions. Second, it has to involve both private agents and authorities. Third, it has to tackle effectively the conundrum of national monopolies. Suppose that certain market infrastructures are monopolies. In a fully integrated EU market national monopolies make no sense, since they prevent the full exploitation of economies of scale, which is achieved by EU-wide consolidation. The question is therefore how to manage the transition from national monopolies to the EU-wide institutions<sup>2</sup>.

The structure of this paper is as follows. Section 2 discusses the problem of post-trading (clearing and settlement, C&S) in the EU. Section 3 illustrates the underpinnings of C&S market reform. Section 4 describes the reform strategy. Section 5 discusses some of the key questions around the reform process. Section 6 contains a few concluding remarks.

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<sup>2</sup> The relevance of this question hinges on the realism of the starting hypothesis, that economies of scale in the industry provide a powerful momentum towards monopolistic provision of infra-structural services. Several of the propositions put forward in this paper would apply even if instead of a single supplier, the market was characterized by the coexistence of few large suppliers.

FIGURE 1 ASSETS UNDER CUSTODY OF SELECTED SECURITIES SETTLEMENT SYSTEMS



SOURCE: European Central Bank.

## 2 A system faulty at the core

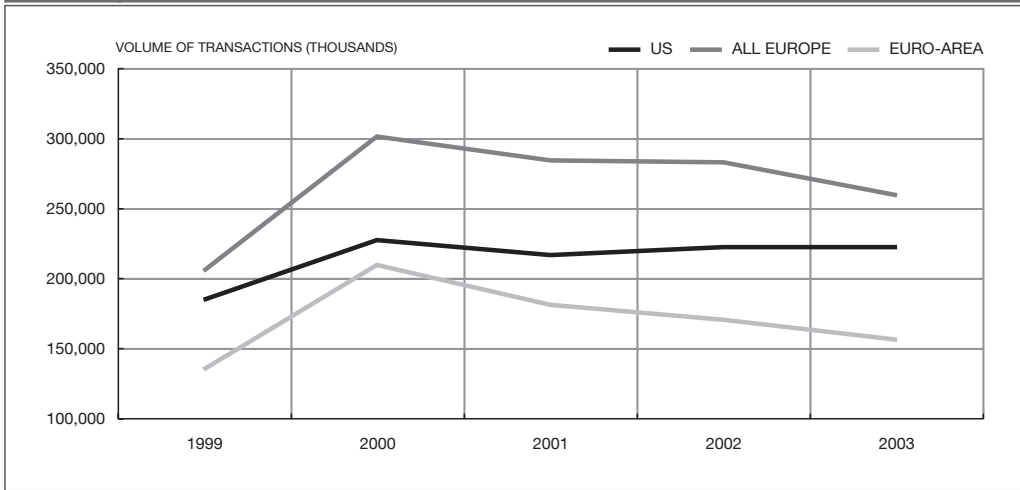
C&S represent the core of the financial system. They are the physical and virtual arrangements that ensure that each buyer receives what he or she has paid for, and each seller receives the value of what he or she has sold. Financial intermediation is based on financial trades which are overwhelmingly trades in securities or derivative contracts. C&S of securities and derivatives are thus the core of the financial system. By setting the rules and procedures that make financial transactions possible, C&S arrangements define a financial market. Once the rules and procedures to effect securities transactions are set, the rules determining how buyers and sellers meet and how prices are specified can be easily chosen. Recent experience has demonstrated that C&S are deeper and heavier than trading structures: for any given C&S infrastructure, trading venues can be more easily created and modified, often in competition with each other<sup>3</sup>.

Over the years C&S infrastructures have developed in a way to maximize efficiency and safety of securities transaction. A clear pattern is observed in every country: there is maximum consolidation of central counterparties and of central securities depositories. Such consolidation is most frequently supported by regulations granting monopoly powers to central counterparties and central securities depositories.

What justifies maximum consolidation of C&S infrastructures? It is helpful to think about the technology underlying these functions. C&S rely on technologies

<sup>3</sup> Indeed, there are a number of cases, in the US and in Europe, of trading venues that have used vertical integration as a device to protect themselves from competition.

FIGURE 2 INSTRUCTIONS HANDLED BY SELECTED SECURITIES SETTLEMENT SYSTEMS

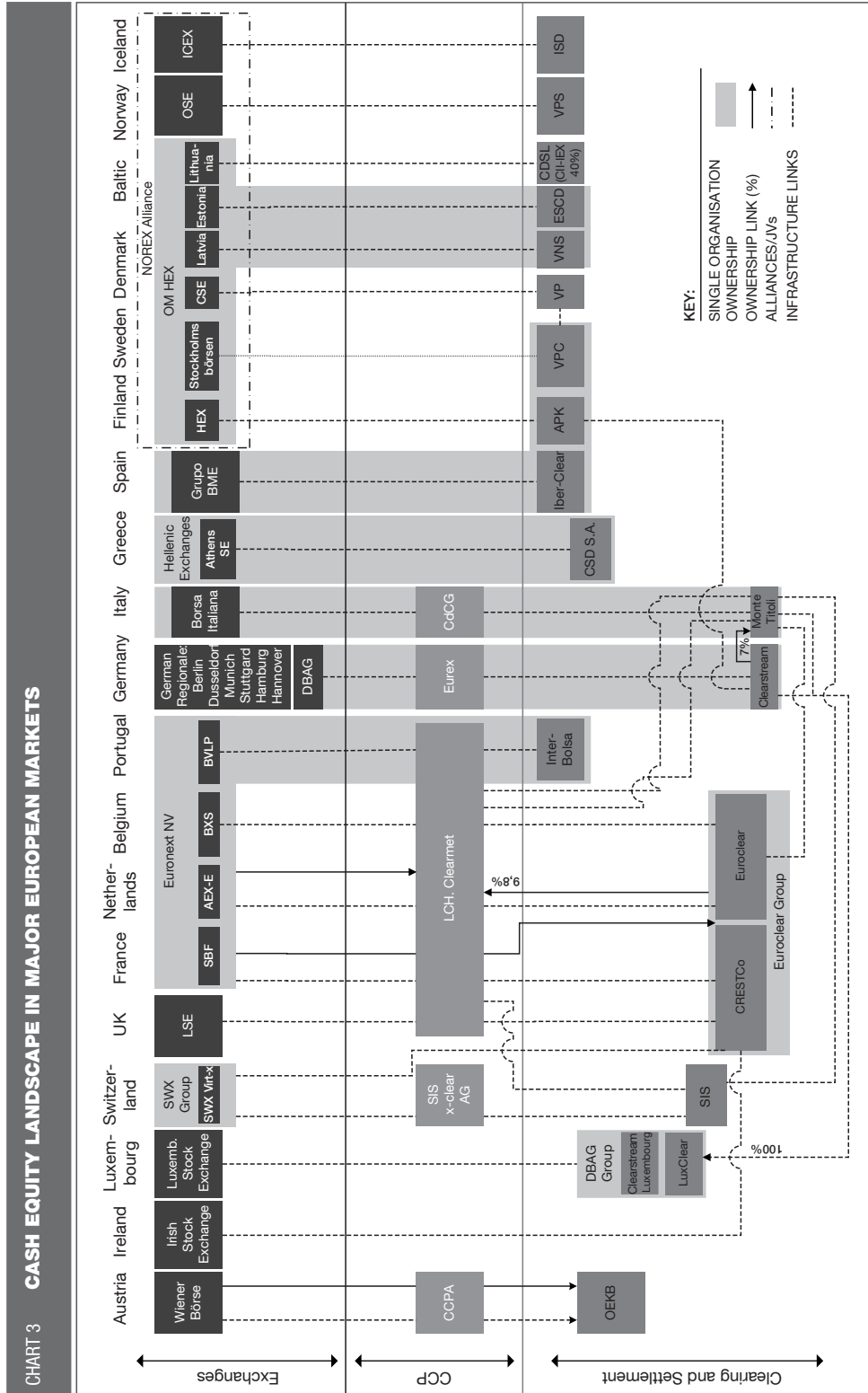


SOURCE: European Central Bank.

that are well approximated by zero-marginal cost curves: there is an investment in information infrastructures that when are in place can be scaled up almost costlessly. For this reason it is in the best interest of the market that C&S infrastructures achieve the maximum consolidation possible: only in this case would the cost of these infrastructures be minimized. In addition, there is also a risk argument for maximizing consolidation. The larger the number of counterparties in the C&S infrastructures the more efficiently the risk of a default of a single entity can be shared in the market, and the spreading of a single entity's default is contained. The larger the number of counterparties and transactions going through the C&S infrastructure, the larger the possibilities of collateral netting and therefore the lower capital requirements to effect securities transactions.

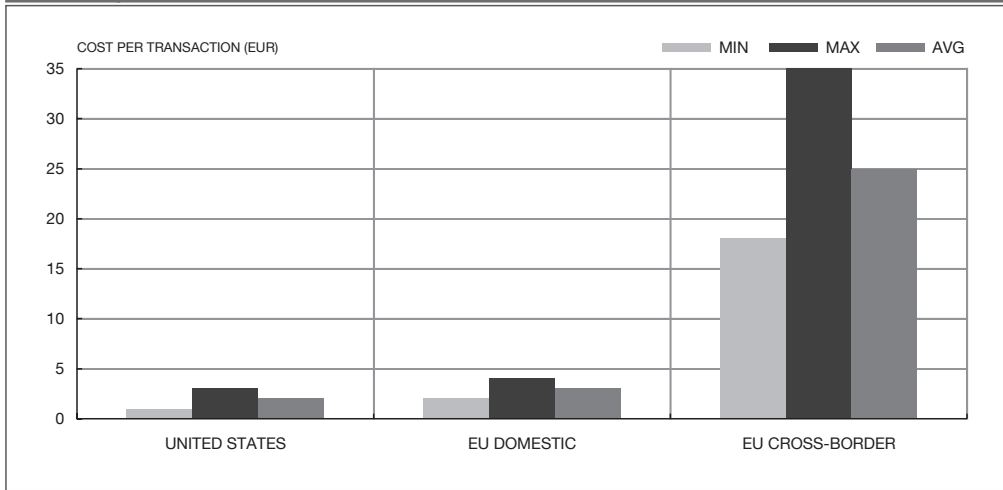
Figures 1 and 2 illustrate the size and potential of an integrated EU securities market. Figure 1 reports the value of the assets under custody in the EU, the Euro-area and, for comparison, in the US. Figure 2 reports a measure of transactions volume in the same three markets. Interestingly, the figure shows that the number of instructions handled by the sum of all securities settlement systems of the EU significantly exceeds that handled by US securities settlement systems. This difference does not necessarily indicate that the EU securities market is larger than the US, since in the case of the latter country integration is such that netting of transactions is much more significant, and therefore the instructions making their way to the settlement system are comparatively fewer.

It is apparent that when we consider EU securities markets as a whole, a structure of national monopolies is inconsistent with a liquid and efficient EU-wide securities market, because it does not permit the achievement of the potential cost savings aris-



SOURCE: Merrill Lynch; Euroclear; Accenture; company information.

FIGURE 4 COMPARISON OF DOMESTIC AND CROSS-BORDER COSTS



SOURCE: European Central Bank.

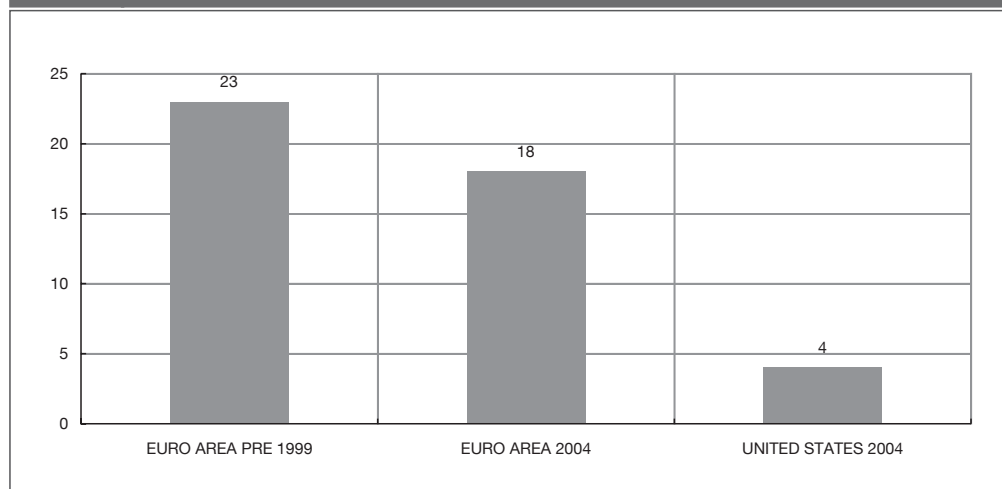
ing from consolidation. Furthermore, national C&S infrastructures have developed together with a long list of technical standards, market conventions, rules regulations and laws that reflect every individual national financial market, and that are not coherent with each other. National monopolies and incoherent standards, conventions, rules and laws are the faults at the core of the EU financial system.

The fragmentation is significant, as well as the complexity of governance structures of market infrastructures. Figure 3 illustrates the structure and governance of trading and post-trading in the case of cash equities. The figure shows a number of facts. First, the sheer fragmentation of equity trading and post-trading when one looks at the EU as a whole. There are very few structures that service more than one national market. Second, the presence of both horizontally (LCH Clearnet, CRESTCo, Euroclear) and vertically (Deutsche Borse, Borsa Italiana, Latvia, Estonia) integrated structures.

Figure 4 illustrates the effects of fragmentation, by comparing the costs of domestic transactions and cross border transactions in the EU. For the sake of comparison, the figure reports also the cost of a domestic transaction in the US. The figure shows that the cost of domestic transactions are comparable in the EU and in the US. By contrast, the cost of a cross-border transaction in the EU is many times the cost of the same transaction within borders. This fact was first illustrated in Giovannini Group (2001). The prime suspect for such huge differences in cost are the faults I have mentioned above: national monopolistic structures, largely isolated from each other, incoherent standards, conventions, rules and laws.

One of the most relevant facts in today's environment is that despite the still significant inconsistencies across the various national post-trading infrastructures

FIGURE 5 SECURITIES SETTLEMENT SYSTEMS



SOURCE: European Central Bank.

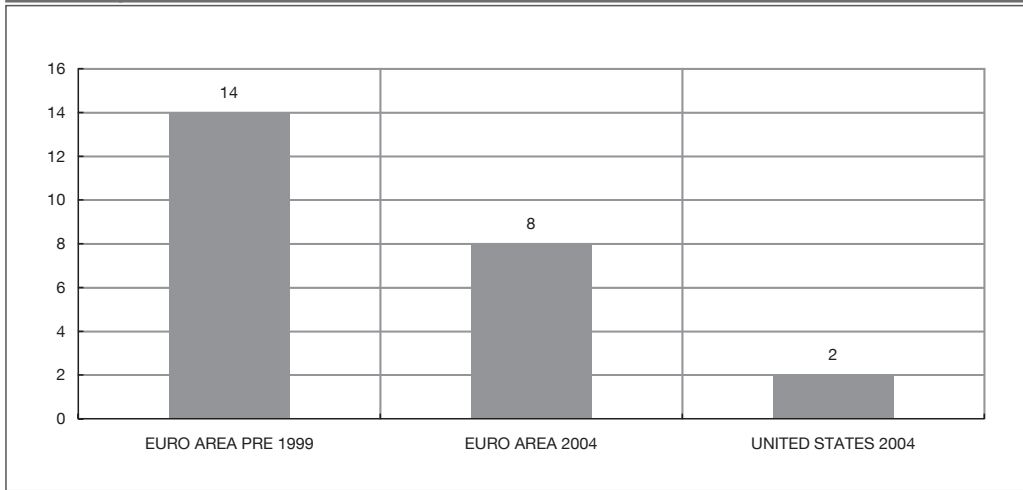
there exist a momentum to consolidate. This is illustrated in Figures 5 and 6, which focus on Euro-area countries. Figure 5 shows the number of securities settlement systems in the Euro-area before 1999 (the year of the introduction of the Euro) and in 2004. Figure 6 shows the number of central counterparties in the same dates. Both figures show that there has been a decrease in the number of providers. Yet, when comparing the Euro-area with the United States, it is apparent that there is much more room for further consolidation.

Where does the pressure to consolidate come from? The most plausible hypothesis is that, despite the fragmentation of the market, there exist gains to be made by consolidating infrastructure platforms. Indeed, the recently announced deal between the New York Stock Exchange and Euronext is an illustration that consolidation gains are available even in the case of two markets that are characterized by different standards and regulations, even though issuers and investors are by and large free to access them both. In addition, the opportunities from consolidation would much increase if inconsistent standards, conventions and rules across the EU are eliminated. It is plausible that many providers are moving towards consolidation in the expectation that this will indeed happen. In the next section I discuss reform initiatives.

### 3 Market reform

The need to reform post-trading in Europe has been felt only relatively recently. The Financial Services Action Plan, a comprehensive reform process designed by

FIGURE 6 SECURITIES CENTRAL COUNTERPARTIES



SOURCE: European Central Bank.

the European Commission to create a single financial services market in the EU did not mention post-trading in its initial drafts. It could be argued that several EU policymakers had been of the view that, once the Euro was introduced and prohibition to trade securities and financial services cross border were lifted, market infrastructures would somehow adapt themselves. This view could certainly be shared, but leaves open the question of whether market evolution would be too slow to deliver the efficiency gains that a truly integrated post-trading infrastructure could offer.

The two so-called Giovannini Reports (Giovannini Group, 2001 and 2003) put together existing wisdom<sup>4</sup> on the causes and effects of fragmentation in EU post-trading infrastructures. The contribution of the two reports has been to explain that the present infrastructure is not just the effect of differing regulations but is also determined by differing technical standards and differing market conventions. These all developed together and work together. The whole post-trading environment is thus the result of the complex interaction of rules issued by national authorities and rules of the game in markets.

The Giovannini Reports identified 15 barriers to efficient post-trading in the EU. The barriers are caused by inconsistencies due to technical standards and market practices, to the requirements of tax compliance in different countries, and to differing legal definitions of securities ownership. They are listed in Table 1. The analysis of barriers is a device that highlights the extent to which the post-trading market is fragmented and helps to focus on practical initiatives aimed at eliminating the barriers.

<sup>4</sup> The Group of Thirty in particular has devoted significant resources in studying and explaining the importance of efficient post-trading in global financial markets.

TABLE 1 THE 15 BARRIERS TO EFFICIENT CLEARING AND SETTLEMENT IN THE EU

<b>Technical requirements/market practices</b>
Diversity of IT platforms/interfaces
Need to maintain multiple membership of settlement systems
National differences in rules governing corporate actions
Differences in the availability/timing of intra-day settlement finality
Impediments to remote access
National differences in settlement periods
National differences in operating hours/settlement deadlines
National differences in securities issuance practice
Restrictions on the location of securities
Restrictions on the activity of primary dealers and market-makers
<b>Taxation</b>
Withholding tax procedures disadvantaging foreign intermediaries; and
Tax collection functionality integrated into settlement system
<b>Legal certainty</b>
National differences in the legal treatment of securities
National differences in the legal treatment of bilateral netting; and
Uneven application of conflict of law rules

The second report (Giovannini Group, 2003) produced a structured set of initiatives aimed at eliminating all of the 15 barriers. The structure was built as follows:

- For every barrier, one or more entities directly responsible for coordinating actions aimed at its elimination were identified;
- A temporal sequencing of these initiative was established, based on the functional relations existing among the different standards, conventions and rules;
- A set of deadlines were offered, representing a minimal time frame estimated as necessary to complete the initiatives described.

The two reports have been widely publicized and have been discussed throughout the industry. Nobody has challenged either the analysis of the reports, in particular the finding on the exorbitant relative costs of cross-border post-trading services versus the same services for transactions within the same country, or the method of reform.

In particular there have been significant endorsements from public authorities. The European Commission published a Communication (Commission of the European Communities, 2004) fully supporting the reform process described in the second Giovannini Report. The European Parliament has declared that C&S reform is essential for EU prosperity (Contribution of the European Parliament to the Commission's Legislative and Work Programme, 2006), and, finally, the Commission has included C&S among the highest priorities for efficiency-inducing reforms (the so-called Lisbon Agenda). All of these statements are to be welcome, considering that a few years ago among EU policymakers awareness on the importance of market infrastructure was at best limited!

## 4 The reform strategy

When discussing reform of market infrastructures the first option that is normally considered is the so-called top-down option, that is the option of creating new EU-wide providers through a government initiative. The precedents of successful top-down initiatives are important. In the United States, as recently as in 1999, the Depository Trust Company, or DTC, and National Securities Clearing Corporation, or NSCC, which clears and settles trades in equities, corporate bonds, municipal bonds, unit investment trusts and exchange-traded funds, were consolidated into a new group whose holding company was named Depository Trust and Clearing Corporation, or DTCC. This was the most significant and most recent step in a long process of consolidation of post-trading infrastructures, driven mainly by users, which occurred through progressive dismantling of vertically-integrated structures of exchanges and post-trading platforms, and horizontal consolidation<sup>5</sup>. So, while the US experience is normally hailed as a successful top-down, one-shot, consolidation coup, in reality it is, as Considine (2006) explains, a process of progressive adaptation of structures and market rules (including rules granting remote access) which facilitated consolidation. Such consolidation was arguably driven by the users community, but at the same time consistently supported by authorities.

Another successful experience that is often recalled is that of the creation, in Europe, of the European Central Bank (ECB) and the overnight transition from many distinct currencies and legally independent monetary policies into a single currency managed by a single institution. The ECB is the entity responsible, among other things, to manage the system of cash payments in the Euro Area. Would it not make sense to create an entity that manages the systems of securities payments?

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<sup>5</sup> See, in particular, Considine (2006).

To understand the strategy for reform that is being currently pursued it is useful to make a distinction between framework and architecture. Framework is the sum of standards, conventions, regulations and laws whose inconsistencies are the causes of the barriers to cross-border C&S. Architecture is the structure of the C&S industry: how many suppliers in each segment, how much specialization there is, how large are suppliers relative to the market. The strategy chosen by the EU Commission, in close consultation with users and suppliers, has been to concentrate on framework, and leave architecture aside for the time being.

There are three, partly related reasons for this choice:

- 1 Without an appropriate framework, post-trading would be inefficient, no matter the architecture, and even with the maximum degree of consolidation. The reason is that inappropriate framework is the deep cause of costs in post-trading. These costs would not be eliminated by consolidation.
- 2 Even if all barriers were eliminated, that is if the framework was fully optimized, there is not a universally preferred architecture for C&S. In particular, there are several institutions that consider themselves candidate to provide the pan-EU post-trading services.
- 3 There is a preference in the EU Commission of letting markets choose the preferred architecture once the barriers are completely eliminated.

In theory, it is possible to describe the fundamental drivers in the industry after the elimination of the cross-border barriers. As I have mentioned above, one of the key technological features of C&S is that they are services performed at nearly zero marginal cost. An additional fundamental characteristic is that such services cannot be differentiated: they are standard processes, which are getting more and more uniform internationally. Suppose there are a number of national monopolies providing post-trading services, and that the EU market, previously burdened by almost-prohibitive costs of cross-border C&S gets completely liberalized (all 15 barriers are completely eliminated). What will be the likely outcome on the structure of the industry? Krugman (2004) shows that, if technology is identical, the larger supplier will have the lower cost. Thus it will be able to gain market share at the expense of the smaller, higher cost suppliers. In doing so, it will be able to further decrease costs. At the end of the process, the larger supplier will become the monopolistic, EU-wide supplier. Alternatively, and more efficiently, a series of cross-border mergers of national suppliers, aimed at eliminating wasteful technological duplication, would achieve the same result.

Of course, the choice of concentrating on framework is a choice about logical precedence, not time sequence. Nothing prevents the various actors, private or public, to organize themselves in the expectations of progress in the elimination

of cross-border C&S barriers. In particular, it is also possible that cross-border consolidation ahead of framework reform could help put pressure on the various interested parties to accelerate framework reform.

As I have recalled above, reform is carried out by a multiplicity of actors, public and private, in a multiplicity of countries. It is not a centrally-directed effort, and there is no “Deus ex machina”. The EU Commission has so far played the role of stimulating analysis and initiatives, and of coordinating action. Coordination is managed through management of information flows. The instrument for this work is CESAME, the Clearing and Settlement Advisory and Monitoring Expert Group, a group setup and presided by the Commission (DG Markt), that meets periodically (about twice yearly). CESAME monitors progress in the initiatives that have been associated with the 15 Giovannini barriers. It collects information about all the work, including analysis, carried out around the barriers. It makes available the information to all interested parties and, finally, it provides advice to all interested parties, including and especially the Commission. CESAME is also attended by the European Central Bank, CESR (the Committee of European Securities Regulators), and the Group of Thirty. CESAME is flanked by two other groups: the Legal Certainty Group and the Fiscal Compliance Group. These two groups are formed by national legal and tax experts. They carry out the analysis that is needed in the effort to eliminate barriers due to inconsistent definitions of securities ownership across different countries, and those caused by tax compliance in the different EU member states. This analysis is expected to produce practical ideas that will allow a re-writing of national laws and regulations. The new national laws, defining securities ownership will achieve the dual objective of being more suited to the way securities are exchanged in modern markets, which rely heavily on information technology, and at the same time of being consistent across EU member countries. The new regulations on tax compliance could be designed to remove artificial barriers on the holding of securities and therefore on cross-border clearing and settlement.

The philosophy of CESAME, of the Legal Certainty and the FISCO group is twofold. First of all, the groups are a conduit for consultation with all interested parties. In addition, however, these groups and the way they work ensure a more democratic reform process. By participating in this process interested parties not only will consult with authorities but also with other (potentially opposed) interested parties. All of these exchanges are made available to the public, through timely publication on dedicated websites. As a result, the risk of capture is minimized.

There are important asymmetries in the way standards and conventions are reformed and the way rules regulations and laws are reformed. In the case of standards and conventions – the private-sector rules of the game – the process by which they are designed is relatively straightforward, and has not, in the experience so far, shown any particular difficulty, even in the cases where lengthy and elaborated procedures have been used, like for example for new SWIFT messaging standards.

However, once new standards and conventions are established, there is no mechanism ensuring their adoption. Adoption is voluntary, and is evidently subject to a coordination externality: the more users will want to adopt them, the faster they will be adopted, viceversa, if adoption is slow, it could easily fail<sup>6</sup>.

Consider now the case of laws and regulations. Once they are promulgated, they are automatically abided to. Because by their nature they come immediately into force, rules and laws have a much more elaborate gestation period. This asymmetry between the process by which standards and conventions come into force and the process by which rules and laws come into force makes the work in venues like CESAME more difficult. The kind of effort required to ensure adoption of new standards and conventions is very different from that required to support a proper decision process by authorities. This is the case even though there are substantial synergies across the different activities, and it is such synergies that the CESAME is meant to maximize.

## 5 The practice and the challenges of reform

To put the challenges of the reform of Clearing and Settlement in Europe in perspective it is useful to think about an abstract case. In this exercise I will highlight the key assumptions.

Consider the case of separate national financial markets. In each national market there is a securities market infrastructure service provider (for simplicity I do away with the distinction between clearing and settlement, without in any ways advocating the integration between the two). The securities market infrastructure service provider is a computer system (more properly, an IT department) with an administration department. Let us assume that it is a private company. This company's business is to process large volumes of information in the most efficient possible way. I assume that the company does not take counterparty risk: whatever counterparty risk it cannot perfectly diversify away is easily sold to an insurer. The biggest business risk of the securities market infrastructure service provider is technology risk: periodically the company has to make important technology investments to upgrade its systems and keep up with the pace of information and communication technology progress (which will be dictated by its customers, as well). The investments are lumpy. Their efficiency is uncertain. The earlier adoption allows faster cost reduction and service enhancement, but at the same time it is subject to higher implementation risk.

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<sup>6</sup> Sometimes there are catalysts available, which help avoiding coordination failures. For example, the introduction of Target 2 by the European Central Bank represents a deadline for the harmonization of opening hours and settlement deadlines.

These assumptions help identify the two key features in the business of securities market infrastructure. The first, static, feature are economies of scale. Processing information does not require any active decision on each individual piece of information (transaction) processed: all transactions are processed passively. Hence, the marginal cost of each transaction processed is, for all intents and purposes, zero. It is in the interest of the provider and, indirectly, of its customer, that the infrastructure serves the entire market: this business is a natural monopoly.

The second feature of this business is dynamic and stems from the fast rate of progress of the information and communication industry. The correct management of the investment cycle is the most important determinant of the cost and quality of service of the securities market infrastructure provider.

It is apparent that the two key features of the infrastructure service provider business can interact to produce outcomes that are less than optimal. If economies of scale make the business a monopoly, the managers of the monopoly may invest in technology at a rate that is less than the optimal one<sup>7</sup>. In addition, managers will also likely have an incentive to bundle the essential infrastructural services with other services, exposed to competition, in order to maximize the value of the former by (at least partially) shielding the latter from competition. Finally, the monopolistic service provider will have the incentive to extract the consumer rents by charging different prices to different users. These incentives would manifest themselves in the standard case where the infrastructural service provider is run as a private company, and the task of the managers is to maximize the value of the company.

What happens, in this abstract model, when the national markets, hitherto separated by non-tariff barriers, get integrated, or are expected to get integrated over a foreseeable period of time? The biggest opportunity is represented by the cost gains achievable in the larger, integrated market. As we already pointed out, other things equal the larger player would eventually get the entire market, by being able to charge the lowest prices (and it could also afford more than the other to engage in predatory pricing). Alternatively, scale could be gained by progressive integration of all the service providers in the new, integrated, market. This integration could start in the expectation of the removal of the barriers. At the end of the competitive game, or integration process, the new monopolist will face the same incentives of the monopolists in the smaller, non-integrated, national markets.

It is evident that the elimination of the barriers to clearing and settlement in Europe is going to leave open a number of important questions regarding the ef-

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<sup>7</sup> Lower cost technologies will be adopted if their impact on profits justifies the investment. In the case of a monopoly and in the presence of technology risk, it is plausible that new processes are adopted when uncertainty on their productivity is low. This may cause a less than optimal rate of technological progress. In the case of more than one market actor, technology is adopted as a way to gain market shares, or as a defensive device. Hence technology investments would be faster as we move away from monopoly.

iciency of the infrastructure. The EU Commission has, since its Communication on Clearing and Settlement (2004), pointed out that the likely, and desirable, consolidation of the industry to be expected as a result of the removal of the barriers, opens up questions regarding the governance of the service providers. The Commission has mentioned governance as an ex-ante mechanism that may help minimize the distortions associated with monopolistic profit maximization.

Most infrastructure service providers are private companies, whose objective is the maximization of profits. This relatively new market structure follows a wave of privatization and demutualization of these companies<sup>8</sup>. While it is difficult to verify whether the rate of technological investment by service providers is the optimal one, it is easy to verify that bundling and price differentiation are strategies almost universally followed. These facts are consistent with the model I laid out above.

How has the joint problem of barrier removal and creation of an efficient consolidated EU infrastructure been dealt with so far? As mentioned above, the reform process entails a number of actions to be carried out by the private sector and a number of initiatives from public authorities. At the time of the writing of this essay (September 2006) the parties that have been charged with initiatives in different areas have generally responded constructively and energetically, and have brought about new standards and conventions. Yet, as I pointed out in the previous section, the critical juncture is the adoption phase. By its very nature, adoption is a lumpy process: thus it is too early to pass judgement on whether private sector reform is progressing at a satisfactory pace.

A similar difficulty characterizes the assessment of progress in public authorities initiatives. Table 2, reproduced from the EU Commission, contains an analysis of the overall reform effort, and highlights the authorities' potential initiatives.

Since the publication of that study, Commissioner McCreevy has made a move. He has distributed a code of practice to industry participants, asking them to put measures in place that address a number of items in Table 2. The measures are:

- 1 Price transparency: a number of measures designed to minimize price discrimination and make it easy to estimate the effective cost of essential post-trading services, including the publication of all pricing schedules, the disclosure of rebates and other reduction schemes and transparent billing;

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<sup>8</sup> Many have hailed demutualization as the cause of greater efficiency and profitability of many infrastructure companies (this is observed especially with reference to stock exchanges). I suspect that greater efficiency and profitability, a boom of transactions, have occurred because of a number of concurring factors, including, for example, the birth and growth of retail internet trading.

TABLE 2 **THE EU COMMISSION'S ANALYSIS ON PUBLIC AUTHORITIES REFORM INITIATIVES**

Objectives	Specific objectives	Policies and measures	Rationale	Practical initiatives	
Efficiency	Level playing field	Integration	Ex-post competition policy	Tackle abuses of dominant positions, including discriminatory practices	Investigations and decisions by the Commission and national competition authorities
			Dismantling of market, legal and fiscal barriers	Liberalisation of the cross-border distribution of C&S services, increase of competition and cost reduction	CESAME group (market barriers) Legal Certainty group (legal barriers) FISCO group (fiscal barriers)
			Ex-ante competition legislation	To increase pricing and cost transparency as a means to make the detection of possible abuses of market power, and therefore distortions of competition, by SSSs/CCPs, easier	Directive (access and location issues) - To be tested in the RIA Directive (governance rules, i.e., account separation and unbundling of services) - To be tested in the RIA
			Financial stability and investor protection	Common regulatory and supervisory framework	Facilitate the integration of systems. Addressing the issue of diverging treatment of similar concern by national authorities
Safety					

- 2 Interoperability/remote access: an interoperability protocol to be adopted with the elimination of the rest of the Giovannini Barriers, full rights of remote access across all industry participants: central counterparties, central security depositories, and exchanges;
- 3 Unbundling/accounting separation: an incomplete list of standards has been distributed, highlighting which of the functions of a CSD should be unbundled from others, and for which accounting separation will be required.

The code of practice touches upon only one issue that is related to the cross-border C&S barriers: the very important problem of remote access. The two other items in the code of practice are about mitigating distortions associated with monopolistic behaviour by service providers. However, what is prominently absent in this initiative is the legislative part. Legislation will be needed for:

- Eliminate restrictions on the location of securities
- Modify national laws to ensure legal certainty of securities transactions throughout the EU

In addition, legislation may be needed to draft safety standards to allow entities to access remotely clearing and settlement services, and to remove barriers related to tax compliance.

The absence of legislation is due to an often-declared aversion of Commissioner McCreevy to new laws and regulations. His views are inspired by the belief that the structural lack of knowledge of lawmakers and regulators more often than not misguide their actions. It is hard not to sympathize with these opinions, although, as I argue below, sometimes the costs of no legislative action may be significant. The Commissioner's preferences probably best explain the outcome that we currently observe. Many other parties have also expressed scepticism towards legislative initiatives by the Commission. This scepticism is largely due to a defensive attitude on the part of those entities that presumably would be most negatively impacted by legislation. However, and more seriously, it is also the result of a generalized scepticism about the EU political process: many experts of EU affairs<sup>9</sup> have mentioned the risk that a directive could be badly distorted from the time it is delivered by the technical offices of the Commission to the time it becomes effective<sup>10</sup>.

Thus, the main challenge to the reform of post trading in the EU is one of coordination of the public sector with the private sector. The first initiatives of the public sector reflect, as I pointed out, scepticism towards legislation. But, as a result, the reform process is started in a somewhat lopsided way. This may have sent the wrong message to private market participants – those in charge of pushing reform of standards and conventions, and of adopting those reform. It can be argued that the timid approach of authorities may lead to a timid response of the private sector, and to a general slowdown of the reform process.

On the other hand, this relatively slow start may be just that, only a start. Nothing prevents more decisive and incisive action in the future. Acceleration of public and private initiatives could occur at any time, and could feed on each other.

## 6 Concluding Remarks

The financial system performs functions that use intensively information and communication technology. Through the mechanics of competition, the financial system strives to achieve ever lower-cost ways to deliver its functions to the marketplace.

The basic framework of the financial system is a set of conventions and standards (private rules of the game) and regulations and laws (public rules) which

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<sup>9</sup> Including, disturbingly, Members of the European Parliament!

<sup>10</sup> This difficult problem, which the Lamfalussy process was designed to address, is beyond the scope of this paper, and orders of magnitude more important than the problem of building efficient post-trading infrastructure for the EU securities market.

underlie the web of private contractual transactions that make the financial system work. Thus, in order to evolve in the direction of providing ever lower-cost services or, *ceteris paribus*, more efficient services, the financial system needs every once in a while to adapt its basic framework to changing circumstances and opportunities. When we use the term “financial system reform” we implicitly refer to reform of laws and regulation, to a process which involves active participation from public authorities. Hence, financial system reform and the evolution of the financial system are very close phenomena. It is apparent that, because of the importance of public rules (laws and regulation), an efficient evolution of the financial system needs a pro-active attitude by authorities.

In this paper, I have described and discussed the challenges facing the C&S services in the EU financial system. These challenges arise from the complicated interactions of private market participants and authorities. The choices of the former have to be consistent with the actions of the latter, but the special features of the EU political process (by which I mean the decision making process of EU authorities) make ensuring that consistency a complicated affair.

*Prima facie*, there are two kinds of market failures that deserve attention by authorities. The first kind is, trivially, associated with the country segmentation of clearing and settlement services. This phenomenon, by now well understood, prevents generalized, low cost access to securities markets throughout the EU. The segmentation could be easily dealt with through the removal of the 15 clearing and settlement barriers described above. The second kind of market failure has to do with the behaviour of (quasi) monopolistic providers of post-trading services. Monopolistic providers have incentives to charge excessively high prices through opaque pricing policies, they have incentives to bundle the service protected by the monopolistic market structure with other, competitive, services, in order to maximize the value of the overall business, and they have incentives to upgrade their technology at a rate that is less than optimal.

What has been the progress so far? EU authorities have led a novel and efficient process of exchange of information, aimed at sharing the broad objectives and the method of analysis. A number of practical initiatives have been undertaken by the private sector and by the EU Commission. Based on the record, one is tempted to conclude that the progress towards the “ideal” post trading infrastructure in Europe is so far slow, to the point that forecasting its completion appears an impossible task.

Yet, progress is discontinuous for two reasons. The adoption of new and more efficient market standards and conventions is, as explained above, a nonlinear process due to coordination externalities: small progress so far does not mean that a dramatic acceleration cannot occur in the near future. Similarly, the fact that public authorities have not so far displayed the boldness that some were hoping for or expecting does not imply an acceleration of initiatives, including those required to provide the appropriate legal and regulatory framework for European post trading.

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