Volume Title: Europe and the Euro

Volume Author/Editor: Alberto Alesina and Francesco Giavazzi, editors

Volume Publisher: The University of Chicago Press

Volume ISBN: 0-226-01283-2

Volume URL: http://www.nber.org/books/ales08-1

Conference Dates: October 17-18, 2008

Publication Date: February 2010

Chapter Title: Why the European Securities Market Is Not Fully Integrated

Chapter Author: Alberto Giovannini

Chapter URL: http://www.nber.org/chapters/c11667

Chapter pages in book: (255- 283)

7

Why the European Securities Market Is Not Fully Integrated

Alberto Giovannini

7.1 Introduction

Economists have often used the concept of integration to measure international efficiency. Integration is estimated with similar methods both in goods markets and in financial markets. The method typically adopted is that of sizing deviations from the law of one price: researchers identify identical assets and determine whether they are traded at the same price in different countries. In finance, this method is especially useful, since in financial markets certain assets can in some cases be replicated through appropriate combinations of other assets.[1] The study of deviations from the law of one price is a useful device to identify where distortions are, and is routinely carried out, also by official institutions. In the euro area, the European Central Bank (ECB) publishes reports on the integration of financial markets that apply these methods.[2]

However, the measure of deviations from the law of one price has limitations. First, it is often the case that identical assets cannot be found, and therefore the law of one price cannot apply. In these cases researchers resort to equilibrium pricing models, so that the hypothesis of integration gets to be merged with the hypothesis that the pricing model is correct. In addition, when the analysis becomes very detailed (in general-equilibrium analysis a good is defined not only by its nature but also by time and place) the test of

Alberto Giovannini is the chief executive officer of Unifortune Asset Management.

1. The classic case is interest rate parity: a Eurodeposit loan in a given currency can be replicated through a combination of spot and forward foreign exchange transactions and a Eurodeposit loan in another currency.

2. See European Central Bank (2007).

the law of one price loses power. Therefore, it is not appropriate to rely only on the law of one price to determine the degree of integration and efficiency of financial markets.

An alternative method to discuss integration, which is the starting point of this chapter, is to ask whether similar or identical assets are traded in different markets or in the same market, and what defines a financial marketplace. Consider the case of the European Union (EU) or, more narrowly, of the euro area, and consider securities for simplicity. Can we say that in the EU or the euro area securities markets are integrated? Macroeconomists would tend to believe that it should be the case, based upon two observations: first, throughout the EU there is freedom to trade securities among the different member states; and, second, in the narrower euro area there is no foreign exchange risk, so the comparison of different asset prices is straightforward and the last barrier to securities trade is gone. Yet, as I show in this chapter, the actual picture of European securities markets is very different. This discrepancy is due to the fact that the basic implicit tenet that allows to associate freedom of trade with perfect integration is full competition and absence of distortions: both conditions are not verified in practice.

This chapter explains what a single, fully integrated securities market is, and why we do not have it yet in Europe. I argue that any market, including a securities market, is defined by the arrangements put in place to ensure delivery of goods and of payments to the counterparties in each trade (posttrading arrangements). An analysis of these arrangements is the most reliable way to obtain an accurate assessment of the extent to which there is integration in a geographic area like the EU or the euro area. In the chapter I analyze posttrading arrangements in the EU and discuss their reform, whose objective is to obtain a single EU securities market.

In section 7.2, I describe the two pillars of posttrading, clearing and settlement, and the actors that perform these functions. In section 7.3 I explain where the current status quo in European securities markets comes from. Section 7.4 takes up the question of financial reform: is there a case for intervention in securities markets to induce integration? In section 7.5 I describe the reform strategy that is under way in the EU, and its accomplishments so far, which are rather disappointing. In section 7.6 I analyze the political economy of this financial reform, to provide an explanation of the slow pace of reform. Section 7.7 contains a few concluding remarks.

7.2 What Are Clearing and Settlement?

It is now commonplace to use the word "plumbing" when referring to clearing and settlement. Indeed, clearing and settlement are plumbing in more than one way. First, they are the little-visible infrastructures that make certain the receipt of securities by the buyer and the receipt of the cash (or other means of payment) by the seller. Following, I will present a more

detailed description of what is needed to ensure these simple things to take place. These infrastructures, like plumbing, permit the working of financial markets. Clearing and settlement are plumbing also in the sense that the little glamorous community of professionals involved in these activities is, to say the least, not very visible, either in the financial press or in the public discourse. The little visibility is in part explained by the very dry, technical nature of the work they carry out. Yet it is not justified by the importance of the infrastructure. The volume of economic transactions handled by clearing and settlements providers is mind-boggling: in 2006, the Depository Trust & Clearing Corporation (DTCC) settled more than $1.5 quadrillion (1 quadrillion equal 1,000 trillion; i.e., 1 million billions) of securities transactions,[3] while Euroclear's turnover in the same year was "a mere" €450 trillion.[4] A failure of the clearing and settlement system can have major economic impact. Some of the most important financial crises in recent decades have been accompanied or caused by clearing and settlement problems: the Herstatt crisis and the 1987 U.S. stock market collapse are the best-known examples. For these reasons, whenever financial turmoil is in the horizon, authorities, who are well aware of the importance of clearing and settlement, immediately take initiatives to ensure that clearing and settlement can continue sufficiently smoothly: this was especially evident in the eve of the year 2000, as well as when financial markets were disrupted in the wake of the September 11, 2001 attacks on New York City.

To effect a securities transaction the following steps need to be taken (figure 7.1 reports a more detailed but identical functional analysis):

- Verification of the transaction or settlement details: an essential prestep of clearing.
- Clearing: the establishment of the credits and debits, of securities and amounts due, which can be done in a bilateral (counterparty clearing), or multilateral (central counterparty clearing) way. Different clearing arrangements can produce different settlement flows. For example, a counterparty clearing arrangement may compute the net payments due as a result of the sum of the transactions between two counterparties over a prespecified period. In a central counterparty clearing system, the central counterparty becomes the other side of all bilateral transaction, thus netting all flows in its books. Notice that in central counterparty clearing the central counterparty needs to assess and control the risk it takes from all counterparties (to maintain the integrity of the netting process in its books).
- Settlement: it is the delivery of the securities and the payment of funds between the buyer and seller. This involves securities depositories (Central Securities Depositories [CSDs] or International Central Securities

3. See http://www.dtcc.com/about/business/index.php, May 2008.
4. Norman (2007).

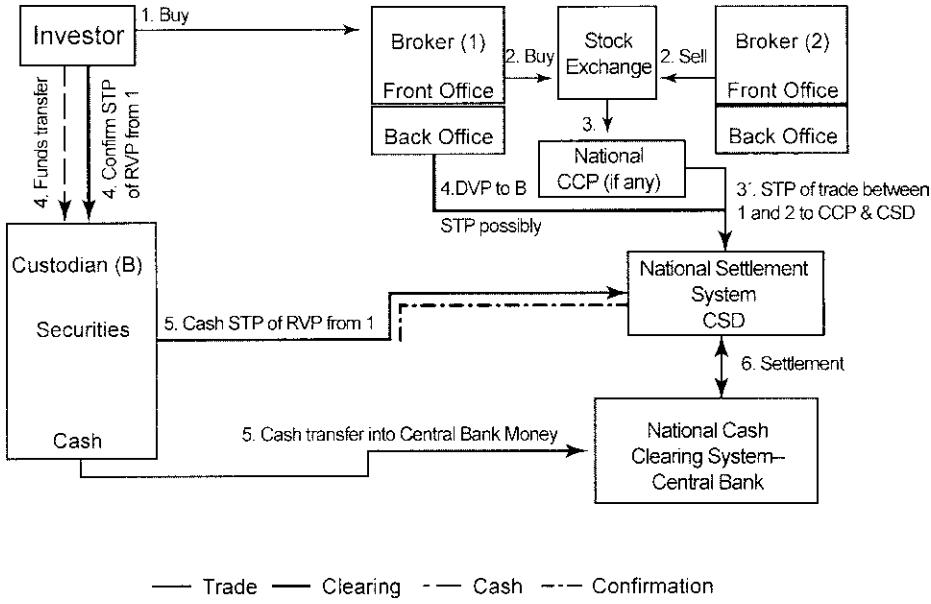

Fig. 7.1 Flows and costs in a domestic transaction
Source: The Giovannini Group (2001).

> Depositories [ICSDs]), which, among other functions, hold the securities and carry out the notary function, ensuring that all securities paid equal securities received, so that the integrity of the outstanding stock is preserved. The payment of funds is typically effected via a banking/payments system.

A number of observations are useful at this point.

1. Clearing and settlement need to work well together, since errors in clearing produce errors in settlement. Yet they are separable functions. More importantly, the volume, and therefore the risk, of actual settlement operations are determined by clearing: a clearing process that produces extensive netting of bilateral transactions results in a minimum of settlement instructions.

2. It is evident that the functions I just described are the core of a market. Indeed, I argue that these functions actually *define* a marketplace, since they define the confines and the mechanics of transactions: a market is defined by the arrangements to get the goods and the money delivered—that is, the posttrading arrangements—not by trading arrangements. This point is confirmed by the fact that, if economic actors are free to do so, they often come up with different trading venues, which fulfill different functions (e.g.,

by selecting different points in the liquidity/transparency frontier). This is not the case of clearing and settlement: multiple clearers may exist, but only because they are bundled to other services (typically, trading: see the U.S. experience with derivatives exchanges, for example).

3. The most important fact about the production of clearing and settlement services is that their only inputs are information, as well as the use of computing and communication services. Unlike many other processes in finance, there is no human input in the actual process of posttrading: no decisions to be taken, no judgment of risk and expected returns, no analysis. All of these valuable inputs stay out of clearing and settlement per se, but are of course essential in the design of clearing and settlement systems. Thus, I conclude that these processes are as close to zero marginal cost production functions as you can get in finance. On the other hand, there are huge technical difficulties and considerable risks to be assessed in the design (and setup) of a clearing and settlement system.

4. There are several important functions that are contiguous to clearing and settlement. Here I list just some examples:

- Custody, the actual holding of securities, is the closest function to settlement; indeed, settlement is carried out by custodians.
- Securities lending is a way to oil the settlement process. A custodian, or an entity in charge of settlement, knows who is long a given security and who is short; it can then match the longs and shorts through securities loans, thus minimizing the disruptions to the settlement process that arise from fails. In addition, securities lending for purposes other than the smooth working of the settlement process requires access to a settlement system; intermediaries in the securities lending market can use information on the settlement process to improve their brokerage services.
- All the typical global custodian (or prime brokerage) services, including securities valuation, securities lending (for the purpose of establishing short positions), and cash lending.
- Other services (often carried out by global custodians) associated with corporate actions (dividend payments, annual general meeting [AGM] voting and securities registration, share capital increases, etc.).
- Last, but not least, trading. For example, a stock exchange that offers posttrading services can provide so-called straight-through processing, which facilitates and simplifies stock trading for its customers.

It is apparent that the contiguity of various financial services to the core clearing and settlement functions gives rise to economies of scope. These in turn create incentives for a relatively wide spectrum of actors to compete for the clearing and settlement market. This last point is examined in more detail, with reference to the experience in Europe, in the next section.

7.3 Evolution of the Posttrading Market in Europe

The entities providing trading and posttrading services had been traditionally structured as mutual companies—that is, customer-controlled firms—or government-owned entities. Di Noia (2000), following Hansman (1996), claims that the mutual nature of financial infrastructure companies came from the monopolistic nature of the business. If a firm is a monopolist, to be user-owned minimizes distortions. Similarly, a monopoly owned by the state will charge prices in accordance to the objectives of the state. Often, the monopoly status of the firms was sanctioned by law, both in the case of trading (concentration rules) and posttrading (see the Giovannini Group 2001). Financial infrastructure firms in each country were also managed with a keen eye to the efficiency of the country's financial marketplace: in a number of European countries there have been committees, often called "financial marketplace" whose aim was to coordinate regulators, users, and providers of infrastructure services in the interest of the market as a whole. It is not surprising that such committees could easily transform into defenders against foreign competition when trading in financial assets became liberalized among European countries. This point is discussed in greater detail following.

National financial markets in Europe were largely isolated and national infrastructures were designed to cater exclusively to domestic users. This led to the birth of entities whose sole function was to provide services to international investors. Capital controls in the United States and Europe led to the development of the so-called Eurobond market, where bonds denominated in currencies other than that of the issuer, namely the U.S. dollar, were sold mainly to international investors (i.e., investors with international securities accounts). In 1968 Morgan Guaranty set up Euroclear in Brussels. Euroclear started to settle transactions in Eurobonds without physical delivery of the bonds: the bonds were kept in the same physical place, and transactions simply led to book entries reassigning the bonds to the new owners. This was the first international central securities depository (ICSD). Shortly afterwards, Cedel was founded in Luxembourg by seventy-one banks from eleven countries, with the same mission as Euroclear.[5]

The coexistence of national infrastructures with a growing international infrastructure has characterized European financial markets in the following years. However, this coexistence progressively became competition as a result of two major phenomena: the liberalization of international financial transactions—a by-product of the creation of the Single European Market—and the introduction of the euro, which eliminated an important barrier across the different European financial markets (namely, exchange risk).

5. See Norman (2007) for the best description of the history of posttrading in Europe.

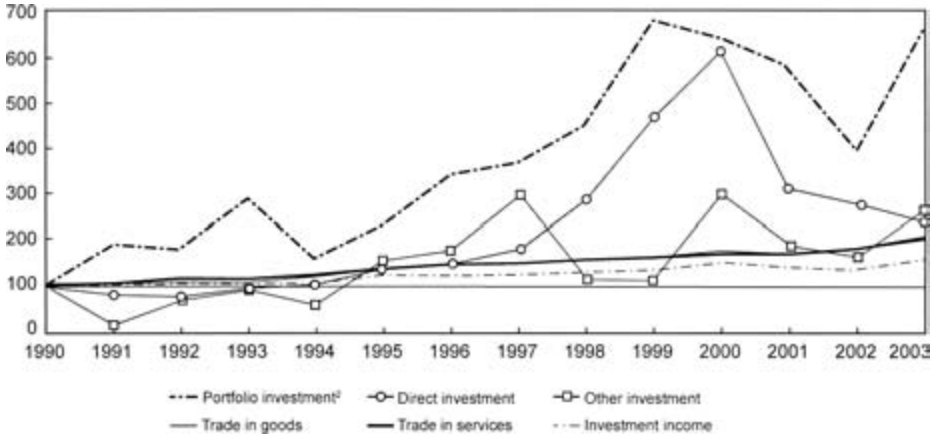

Fig. 7.2 Trends in international trade and investment components, OECD, 1990 = 100, current prices

Source: Bertrand (2006).

The events in Europe were a kind of enhanced version of global developments in financial markets. Since the beginning of the 1990s international portfolio investment has boomed: see, for example, the data for the Organization for Economic Cooperation and Development (OECD) reported in figure 7.2. As a result, infrastructure providers have felt keener competitive pressures from abroad, and have started to react to them. A very noticeable manifestation of this reaction has been a wave of demutualizations or privatizations of the exchanges, often in tandem with privatizations of the posttrading platforms. Table 7.1 reports a list of exchanges that abandoned the mutual governance structure, with the respective dates. There are a few reasons for this: the first, mentioned by Aggarwal (2002), is the increased competition among stock exchanges, requiring faster and more efficient decision making (it is claimed that a mutual company has a more cumbersome decision process than a common stock company). In particular, the decision process leading to alliances may be facilitated in a common stock setting as opposed to a mutual setting. In addition, the presence of potential conflicts of interest between the stock exchanges and their users (intermediaries) may call for a more diverse ownership structure, and more autonomous management.[6] Finally, a common stock structure may make it easier to raise capital, because it allows reaching out to a much wider universe of potential investors.

Stock exchanges claim that demutualization has led to higher profits

6. Yet, as is the case of Italy, the privatization of the stock exchange, the central securities depository, and the central counterparty resulted in intermediaries holding shares of the privatized companies, some sort of hybrid or artificial mutual structure, thus actually creating a setting vulnerable to the potential conflicts mentioned previously.

Table 7.1 **Exchange demutualizations**

Demutualized exchanges	Year
Stockholm Stock Exchange	1993
Helsinki Stock Exchange	1995
Copenhagen Stock Exchange	1996
Amsterdam Stock Exchange	1997
Borsa Italiana	1997
Australian Stock Exchange	1998
Iceland Stock Exchange	1999
Simex	1999
Athens Stock Exchange	1999
Stock Exchange of Singapore	2000
Hong Kong Stock Exchange	2000
Toronto Stock Exchange	2000
London Stock Exchange	2000
Deutsche Borse	2000
Euronext	2000
The Nasdaq Stock Market	2000
Chicago Mercantile Exchange	2000

Source: Aggarwal (2002).

(hence greater efficiency). Verifying this claim is beyond the scope of this chapter. However, I note that in connection with the wave of demutualization there has been an a dramatic increase in trading volumes, which in good part is due to factors other than the marketing efforts of the exchanges. Table 7.2 reports turnover data for a list of European exchanges. The 60 percent increase in trading revenues between 2000 and 2007 is remarkable, considering that the seven-year period starts—in the year 2000—at the peak of the equities bubble, a time when equity transactions were commensurably high.

In Europe, the twin revolutions, liberalization and monetary union, had the simple effect to increase the demand for cross-country transactions within the euro area. More importantly, together with an increase in actual demand for cross-border transactions, there was a universal feeling that cross-border business would skyrocket. Therefore, liberalization and monetary union made the existing infrastructure for financial markets obsolete, as I will explain more in detail in the next section.

7.4 Financial Market Reform: The Case of Europe's Clearing and Settlement

Figure 7.3 reports the graphic analysis of a cross-border transaction. The figure illustrates that the same functions can be, and are, carried out by different actors, a point already mentioned earlier. In particular, international settlement can be carried out through an ICSD or through an agent

Table 7.2 Turnover at European exchanges

Exchange	2000 Total turnover (€)	Exchange	2007 Total turnover (€)
Athens Exchange	117,166	Athens Exchange	122,364
Borsa Italiana	1,013,633	Borsa Italiana	1,680,200
Budapest Stock Exchange	13,091	Budapest Stock Exchange	34,610
Cyprus Stock Exchange	10,919	Cyprus Stock Exchange	4,193
Deutsche Börse	2,296,156	Deutsche Börse	3,144,150
Euronext	2,533,295	Euronext	4,086,811
Irish Stock Exchange	15,734	Irish Stock Exchange	99,550
Ljubljana Stock Exchange	707	Ljubljana Stock Exchange	3,439
London Stock Exchange	4,943,465	London Stock Exchange	7,544,970
Luxembourg Stock Exchange	1,822	Luxembourg Stock Exchange	176
Malta Stock Exchange	200	Malta Stock Exchange	65
OMX Nordic Exchange Copenhagen	101,216	OMX Nordic Exchange	1,321,807
OMX Nordic Exchange Stockholm	526,244	Oslo Børs	399,054
Oslo Børs	75,159	Prague Stock Exchange	36,581
Spanish Exchanges (BME) Madrid	660,785	Spanish Exchanges (BME)	2,160,321
SWX Swiss Exchange	692,258	SWX Swiss Exchange	126,748
Warsaw Stock Exchange	21,054	Warsaw Stock Exchange	63,876
Wiener Börse	10,497	Wiener Börse	94,489
Total	13,033,399	Total	20,923,404

Source: Federation of European Stock Exchanges (FESE): http://www.fese.be/en/?inc=art&id=4.

bank, or via the services of a global custodian or, finally, through a link between the domestic and foreign central securities deposit (CSD). As a result, all of these institutions are currently competing for the same cross-border business in Europe.

What is the attraction of the cross-border business? Not only, as I argued previously, is cross-border business expected to be the growth segment in the EU market, but also the unit revenues from servicing cross-border securities transactions are orders of magnitude higher than those for the equivalent domestic transactions. This result is documented in various studies. The studies mostly resort to unit revenues because prices for posttrading services have the following two features: (a) they are not publicly available information, and (b) they are widely different across users (typically users with more market power get discounts).[7] The Giovannini Report (2001) illustrates data studied by the Center for European Policy Studies (CEPS), which compares unit revenues of ICSDs with unit revenues of domestic CSDs, after adjusting for netting. This method is based on the hypothesis that ICSDs business is mainly cross-border (the income statements used for the comparison are from 2000). Table 7.3 reports the results of this experiment. They are strik-

7. The disparity of prices across users is puzzling given the standardized nature of these services, which are mostly carried out by computers.

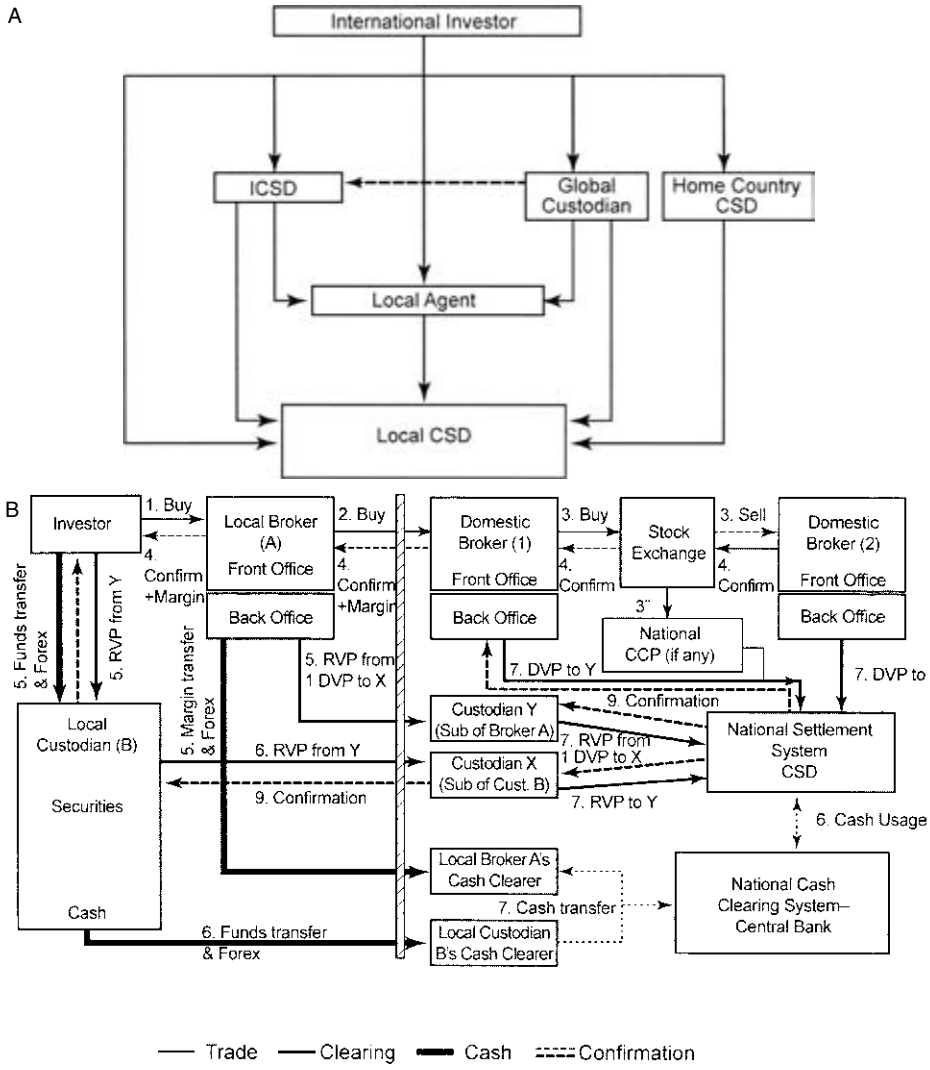

Fig. 7.3 ***A*, A nondomestic transaction; *B*, Instruction flows in a cross-border transaction**

Source: The Giovannini Group (2001).

ing: the unit revenue from cross-border transactions is more than ten times the same from domestic transactions. This result, published in 2001, was never seriously disputed by any researcher or service provider in the post-trading industry.

Another authoritative study, by NERA (2004), compares posttrading costs actually using pricing schedules supplied by service providers. The

Table 7.3 **Operating income per transactions in selected CSDs (figures in euro)**

	Organization	Operating income (€)	Transactions (prenetting)	OPINC/ Transaction (€)	Transactions (postnetting)	OPINC/ transaction
ICSD	Euroclear Bank	360,590,000	11,000,000	32.78	11,000,000	32.78
ICSD	Clearstream Luxembourg	401,175,000	12,000,000	33.43	12,000,000	33.43
DK	VP	27,122,013	6,800,000	3.99	6,800,000	3.99
DE	Clearstream Frankfurt	268,745,000	125,000,000	2.15	125,000,000	2.15
ES	SCLV	45,758,000	11,000,000	4.16	11,000,000	4.16
GR	CSD	47,805,161	21,973,933	2.18	21,973,933	2.18
FR	Euroclear France	144,968,647	135,000,000	1.07	41,000,000	6.60
FR	Clearnet France	125,448,000				
IT	Monte Titoli	22,175,332	126,395,972	0.18	8,783,635	2.52
PT	Interbolsa	14,205,395	8,654,761	1.64	8,654,761	1.64
SE	VPC[b]	43,125,089	14,633,242	2.95	14,633,242	2.95
UK	CREST[a]	143,446,634	58,816,750	2.44	58,816,750	2.44
EU	EU	1,644,565,272	531,874,658	2.86+	319,662,321	5.14
	EU (excl. ICSDs)	882,800,272	508,874,658	1.49+	296,662,321	2.98
ICSD	SIS	103,231,065	17,745,900	5.82	17,745,900	5.82
US	DTCC++	638,261,727	1,387,500,000	0.46	230,271,931	2.77

Sources: CEPS using data from national CDSs, Clearstream and Euroclear; the Giovannini Group (2001).

Notes: Number of transactions: Prenetting. The data has been obtained from CSDs (either annual reports or other public documents, web pages, etc.) Additional information has been taken from the "Blue Book 2000" of the European Central Bank. Postnetting data provided where applicable. Transactions should be single-counted. However, this is not as straightforward as it appears. The number of Clearstream Frankfurt above is single-counted stock-exchange trades only. *Operating income:* Taken from profit-and-loss accounts of CSDs, as figures in the CSDs annual reports. The figures are from 2000 unless otherwise stated. *Exchange rates:* If data is not originally in euro, the following exchange rates have been used: 1€= US$0.924; 1€ = DKr7.45; 1€ = SKr 8.45; 1€ = £0.69. *CCPs:* If a CSD does benefit from netting then the operating income of that CCP has been included (Clearnet France, NSCC). It has not been possible to determine the operating income of Banca d'Italia's L.d.T. +: Per transaction operating income (excluding the income of Clearnet). ++*DTCC:* If subtract interest income, the DTCC's discount policy makes expenditures exceed revenues. The share of interest income (11 percent of total income) has therefore been subtracted from the discount as well. This produces an operating income of €638m. *ICSDs:* Banking revenues are core income for ICSDs, as their services are different from other CSDs. The banking revenues of Euroclear Bank, on the other hand, are largely excluded in the annual statement of Euroclear. This is due to an agreement relating to the exit of JP Morgan from Euroclear.

[a]Daily average multiplied by 250 working days.

[b]Värde papperscentralen AB (VPC) settlement income amounted to €15.2 million in 2000. The remaining two-thirds of total operating income is mainly made up of issuance income, which is not a core activity of a CSD. The total figure has been included, however, as it has not been possible to verify whether other EU CSDs also have issuance income.

conclusions of that study are broadly in agreement with those previously reported: "For an exchange-traded equity transaction settled on a net basis, the cost in the US is around €0.10, in the UK, Italy and Germany the cost is in the range of €0.35 to €0.85." (NERA 2004, 87). The study also states, ". . . a standard cross border trade settled through an ICSD can cost €35 or more" (87).

At the root of these price differences there is the added complexity of cross-border transactions: a cross-border transaction can involve as many as eleven intermediaries and fourteen instructions between parties (The Giovannini Group 2001). This complexity is due to the simple fact that EU markets are separate entities, from a legal and regulatory standpoint. As a result, these markets have developed different conventions and technical standards. The complexity therefore arises from the need to bridge separate markets.

At first blush this complexity—and the various risks it gives rise to—cannot explain a price differential of the order of 10 to 1. To my knowledge, nobody has ever attempted the steep task of quantifying the effects of market fragmentation on the actual costs of posttrading services. The general belief, supported by the few valuations of the business providing international clearing services that have surfaced (Norman [2007], for example, cites some), is that the profitability of cross-border services is, at the price levels mentioned previously, very high. It is, however, to be expected that it will decrease as a result of increasing volumes of transactions and an increasingly crowded marketplace. Indeed, since the aforementioned studies, a number of developments indicate that the ratio of cross-border to domestic costs has decreased: the latest estimate that has been informally cited is, to my knowledge, 4:1, a number that is still frighteningly high.

Hence, the sense in which the European financial market has got obsolete infrastructure is that it may be described as a juxtaposition of national monopolies that have been historically isolated from one another: a far cry from an efficient, integrated market. Should this be sufficient ground for a public initiative? Consider the fundamental factors driving the evolution of markets. Financial markets make heavy use of communication and information technologies.[8] As a result, the primary driver of progress is progress in communication and information technologies, one that has been very fast in recent decades. In the presence of competition, it is to be expected that the dramatic changes brought about by technical progress in information and communication would be transforming the way financial markets perform their basic functions. The regulatory framework designed to support these functions would need to change to reflect the new way such functions are performed.

8. The basic functions of financial markets are the facilitation of assets trades, the allocation of resources over time and space, the trading of risk, the provision of information on the value of investment assets, and the solution or principal-agent problems. These functions require as inputs people and information.

Should regulators and lawmakers take the lead in this transformation process, or should they just accommodate the effects of the strong forces of change mentioned previously?

In general, as well as in this case, the role of government authorities is justified on economic grounds by the presence of market failures, which are phenomena that prevent the normal market mechanism to reach an efficient allocation of resources. An additional condition for government intervention to be justified is that it is effective; that is, it actually identifies and eliminates the market failures. It is useful to concentrate on the market failures that are to be expected in posttrading:

- Coordination failures: the service providers along the posttrading value-chain need to coordinate their actions. The equilibrium may not be the optimal one when providers do not internalize the effects of other participants' reactions to their own decisions (Nash equilibrium).
- Technology, and in particular near-zero marginal costs in information processing, may give rise to a single supplier. If it is a for-profit business it will, in absence of regulation, practice monopoly pricing.
- In addition, market or monopoly power will induce for-profit suppliers to practice price discrimination as well as service bundling. A number of services offered in competitive markets will be bundled to the service offered in a monopoly regime, to protect the former from competition.

This reasoning applies in a domestic financial market. In an international setting, market failures are trivially represented by barriers that prevent, or make more difficult, the provision of posttrading services cross-border.

The Giovannini Group (2001) provided an analysis of barriers to the provision of cross-border posttrading services. These barriers justify the presence of the complex systems of cross-border securities settlement previously described, which give rise to those very large cost differences. The barriers are listed in table 7.4.

An analysis of the list of barriers reveals that they are the result not of conscious protectionist attitudes, but just of a history of separated national financial markets. For example, the use of communication standards that differ from country to country (barrier 1), the presence of different rules governing corporate actions (making it cumbersome and costly to access a market from abroad, barrier 3), the differences in operating hours and settlement deadlines (barrier 7, making, together with barrier 4, difficult to connect different settlement systems) and the differences in standard settlement periods (barrier 6) were not the result of protectionism, just historical accident. The list contains barriers caused by technical standards and conventions, which can be regarded as private-market rules. There are also barriers caused by laws and regulations. For example, barriers 13, 14, and 15 pertain to different legal treatment of interest in securities and they are also the result of history, not protectionism. The same is true for the barriers

Table 7.4 The fifteen barriers identified by the Giovannini group

Number	Barrier
1	Differences in IT standards and interfaces
2	National restrictions on the location of clearing and settlement
3	Differences in rules and processes relating to corporate actions
4	Absence of intraday finality between systems
5	Impediments to remote access
6	National differences in settlement periods
7	National differences in operating hours/settlement deadlines
8	Differences in issuance practice
9	National restrictions on location of securities
10	National restrictions on activity of primary dealers and market makers
11	Domestic withholding tax regulations serving to disadvantage foreign intermediaries
12	Transactions taxes collected through a functionality integrated into a domestic settlement system
13	Absence of a EU-wide framework for the treatment of interests in securities
14	National differences in the legal treatment of bilateral netting for financial transactions
15	Uneven application of national conflict of law rules

associated with different systems of taxation. In addition, certain provisions like those granting monopoly power to domestic posttrading infrastructures (see, for example, barrier 2 on restrictions on the location of clearing and settlement and barrier 10 on primary dealer restrictions) are probably not inspired by protectionism, but by the desire to allow the maximum exploitation of the benefits of economy of scale, by avoiding fragmentation of posttrading services.

Therefore, the analysis of barriers seems to suggest that things that are efficient in domestic markets become the source of fragmentation in an international setting. This, however, is not the only problem: the technology used to deliver posttrading services is characterized by near-zero marginal costs, therefore there are potential distortions when this technology is managed for profit by entities that are large enough to be able to affect market prices.

In summary, the combination of barriers to efficient cross-border posttrading with an industry structure characterized by national monopolies, in turn justified by the technology to deliver posttrading services, appear to be the necessary conditions for government initiative. The existence of necessary conditions raises the question of the most effective initiatives that government can take. In practice, governments are constrained by the institutional setting of their decision making. In particular, in the European Union there is a complex interaction between the EU Commission and national governments, which has shaped and crucially affected the reform initiatives.

7.5 The European Commission's Reform Strategy and Its Performance So Far

The most straightforward strategy for reform of the posttrading infrastructure in the EU would have been to coordinate consolidation of the different providers: the different segments of the posttrading functions could have been horizontally integrated across the different EU member countries, to achieve the scale that is the necessary condition for lower costs. However, while this strategy ensures—by its very nature—the achievement of an efficient outcome, it leaves aside the presence of the barriers to cross-border business mentioned in the previous section. If consolidation occurs in the absence of barrier's removal, the cost of cross-border business will remain higher than the cost of domestic business. In addition, a top-down strategy is vulnerable to the problems of government involvement in business decisions, with potential costly errors.

An alternative strategy is truly opening markets; that is, to eliminate all barriers to cross-border trading, and let the structure of the industry evolve on its own. In this case a situation like the one studied by Krugman (1994) would be created: when trade is opened among national monopolies, the one with the lowest average cost (and presumably lowest prices) progressively takes over the whole integrated market, because it is able to charge the lowest price throughout, and by gaining ever larger market shares, it maintains and improves its pricing advantage over competitors. In Krugman's simple description it is assumed that national monopolists have identical technologies. If that was the case, letting the markets produce the Krugman outcome would not be a particularly useful exercise, although in practice the single EU-wide supplier would not emerge as the entity that progressively erodes to zero the market power of the smaller competitors, but rather would be formed through mergers, a faster and quicker way to gain the scale that allows the lowest costs. What would justify a hands-off approach that limits itself to the elimination of all barriers to trade is the presence of different know-how and skills. A competitive game would presumably be a more efficient device to make the better technologies and know-how emerge, although the cost advantages of the larger players at the time of market opening would still distort the outcome.

The EU Commission decided to follow the logic presented previously. It embraced the view that the elimination of the barriers is the starting point of reform and that authorities should stay out of the process of consolidation that should be expected as a result of the elimination of barriers. In a Communication issued in 2004 (EU Commission 2004), the Commission stated that the priorities were:

1. Liberalization and integration of existing securities clearing and settlement systems.

2. Application of competition policy.
3. Adoption of a common regulatory and supervisory framework including questions of definitions.
4. Adoption of appropriate governance arrangements.

To achieve them, it decided to embark on the following:

- To draw up a Directive on clearing and settlement which addressed questions of (a) rights of access and choice, (b) a common regulatory framework, and (c) governance.
- To set up the a consultative and monitoring Group, called CESAME (Clearing & Settlement Advisory and Monitoring Experts 2008) with the mandate to organize the removal of the so-called private sector barriers and advise the Commission on public sector barriers.
- To establish a group to advise on reforms in the taxation area.
- To establish a group to advise on reforms in the legal area.

The Commission added rights of access, a regulatory framework, and governance among the areas where it would legislate because it recognized that granting access to nondomestic providers is the precondition for market liberalization, that regulatory issues would be raised with respect of the risks that intermediaries in charge of posttrading would be allowed to take (in the interest of the safety of the system as a whole), and that, given that the industry has at least a tendency to converge toward a (natural) monopoly, it would be important that the governance of the providers at least to some extent limit the incentives that a monopolist manager has to maximize its own profits, thus increasing costs and charges for its customers.[9] Taxation and legal issues are part of the list of barriers, but since they require action that requires heavier involvement of national government, the choice of separate working groups allows conducting the work with this different style.

The members of CESAME were (together with representatives from the Commission Directorate-General for the Single Market [DG Markt], which chaired the group, and representatives from the Directorate General for Competition [DG Comp]) top officials from the European Central Bank and the Bank of England, and the chairman of CESR, the Committee of European Securities Regulators. The industry representatives were from a number of banks involved in posttrading services, the national CSDs and ICSDs, stock exchanges, and associations representing industry groups involved in clearing and settlement. There were, however, no representatives of those most directly affected by the high costs of posttrading services, like final investors and asset managers. In addition, the representatives for the various providers and industry groups were, with few exceptions, people working full-time in Brussels on relations with the Community institutions.

The function of CESAME was to act as an information clearinghouse: it

9. See EU Commission Communication (2004) for a discussion of this.

had to inform the financial community as a whole of the initiatives undertaken to remove the barriers related to technical standards and market conventions, for which governments had no direct role to play. It also had to receive inputs from financial markets on making the process of removing barriers related to technical standards and conventions speedier and more effective. It had to provide information to government authorities and the Commission in the first place on aspects related to its own activities in the liberalization of the posttrading market and, of course, it had to inform the market on how such initiatives were progressing. The idea was that this mechanism, supported by a skilled and competent secretariat from DG Markt, would ensure a more democratic process; that is, a process where authorities would be less vulnerable to capture from private interests. In addition, this mechanism was meant to provide coordination among the many different actors involved in posttrading: knowing that a certain set of reforms would take place, the different actors would make investment decisions under the maintained hypothesis that in a given interval of time the EU market would be much more integrated—thus bringing about an efficient aggregate outcome and avoiding losses due to misdirected investment decisions.

In summary, the process for reform designed by the EU Commission apparently addressed all the market failures that have emerged in the analysis: from simple coordination failures in standard setting and in investment planning to the barriers to cross-border integration and the implications for having monopolistic suppliers of posttrading services.

The CESAME had its first meeting in July 2004. It had some of its work already cut out for itself: the Giovannini Group (2003) had laid out a plan for reform that included a list of responsible entities to coordinate action for each barrier and a timetable and sequencing order. These devices were meant to ensure consistency among the different initiatives and to provide incentives for speedy action. The CESAME essentially adopted the process design described in the Giovannini Group (2003). The timetable is reproduced in figure 7.4. It shows that the maximum time required for the elimination of barriers was estimated to be three years. The figure also highlights that separation of responsibilities (which entities were to be considered to take the responsibility for the initiatives designed to remove each barrier) was such that most work had to be done by authorities, as it pertained to regulations and laws, which can only be changed or cancelled by entities that have the power to do so: parliaments and governments.

Four years after the first meeting of CESAME, which officially kicked off the reform process, the original mandate of the group is over.[10] Has the process delivered what had been promised? Evaluating progress in the removal

10. Members of the group prepared a report (CESAME 2008) containing detailed descriptions of all initiatives and progress. After the expiry of the mandate of CESAME, the Commission has decided to reform the group to carry on the unfinished work.

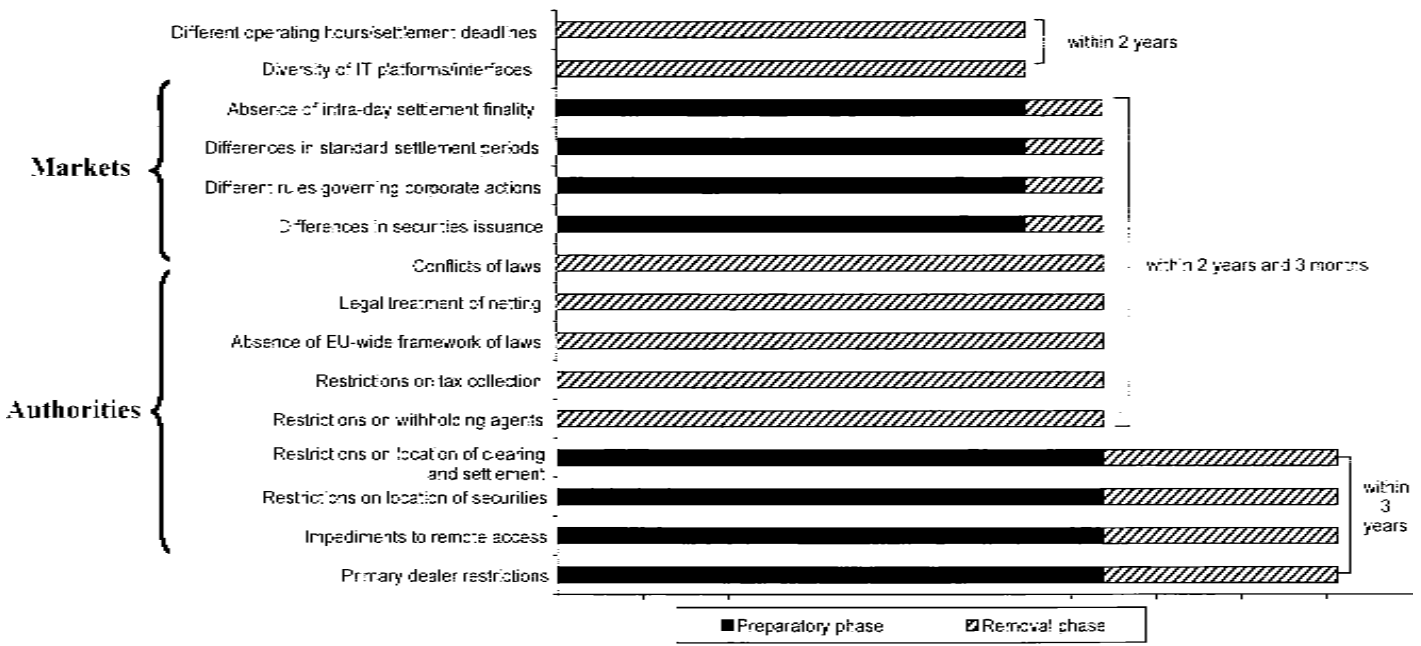

Fig. 7.4 Timetable for the elimination of barriers

of cross-country posttrading barriers is not straightforward, because the reforms in technical standards, conventions, rules, regulations, and laws are nonlinear. In the case of technical standards and conventions, after new templates have been identified and proposed, their adoption is up to the free decisions of market participants. The process is nonlinear because it is characterized by coordination equilibria (the behavior of each actor depends on the behavior of the other actors). Similarly, there are nonlinearities in the case of new rules, regulations, and laws, even though, once new rules, regulations, and laws are issued, they are immediately adopted, by definition. With these caveats in mind, an analysis of the state of affairs does not lead those who laid out the reform strategy to congratulate themselves.

Table 7.5 summarizes the progress.[11] Of the fifteen barriers originally identified, only two have been dismantled. The reforms of standards and conventions (required to remove the private sector barriers) have proceeded in order, but in some cases extremely slowly, so that after four years not even the preparation phase is completed. The changes in regulations and laws required to remove public-sector barriers are even less advanced: in most cases there has been study, in some cases proposals, but little or no action from the Commission and national governments.

This very significant discrepancy between outcome and expectations could in part be due to wrong expectations: has the time to completion of the reforms been estimated to be too optimistic? While the work carried out between 2004 and 2008 has unearthed a number of details and issues that were not foreseen before the start, the expected time to completion of the reforms was drawn by a number of professionals both from the financial industry and the EU Commission: it was aggressive but not unrealistic. Hence, the disappointing outcome of the reform process has to be found elsewhere.

The most significant deviation from the initial plan is the decision by Commissioner McCreevy not to draft a directive. The 2004 Communication envisaged the production of a directive, whose objective was to gather together the reforms of regulations needed to remove most of the public-sector barriers. McCreevy's decision was taken at the end of an extremely drawn out discussion and preparation phase, which included a very vocal debate between two camps in favor and against the directive, some statements from the European Parliament on the desirability of legislation, and a very thorough cost-benefit analysis of legislation ("Impact Assessment").

While the Commission 2004 Communication made it very clear what the contents of a directive would be, debaters in favor and against argued their views only about certain details. Among the most vocal entities in favor of a directive were banks involved in the asset servicing business (which includes posttrading services), coordinated by BNP Paribas around a group that

11. The table draws from CESAME (2008).

Table 7.5 **Progress in the elimination of barriers**

Number	Barrier	What happened	Dismantled? If no, when?
1	Differences in IT standards and interfaces	New SWIFT protocol	No. 2011
2	National restrictions on the location of clearing and settlement	MiFID Code of Conduct	No
3	Differences in rules and processes relating to corporate actions	New standards being finalized	No
4	Absence of intraday finality between systems	Standards finalized	No. 2008
5	Impediments to remote access	Some progress in MiFID. Code of Conduct	No
6	National differences in settlement periods	No progress	No
7	National differences in operating hours/settlement deadlines	New standards	No. 2008
8	Differences in issuance practice	Coordination in issuance and distribution by numbering agencies	Yes
9	National restrictions on location of securities	Being studied by ad-hoc Legal group	No
10	National restrictions on activity of primary dealers and market makers	Under consideration by Commission	No
11	Domestic withholding tax regulations serving to disadvantage foreign intermediaries	Ad hoc fiscal group has identified problems and proposed solutions	No
12	Transactions taxes collected through a functionality integrated into a domestic settlement system	Ad hoc fiscal group has identified problems and proposed solutions	No
13	Absence of a EU-wide framework for the treatment of interests in securities	Being studied by ad-hoc Legal group	No
14	National differences in the legal treatment of bilateral netting for financial transactions	Collateral directive solves the problem.	Yes
15	Uneven application of national conflict of law rules	Being studied by ad-hoc Legal group	No

called itself the "Fair & Clear" group.[12] Their argument was that a directive was necessary essentially to clarify that the business of securities lending by CSDs had to be subject to the same restrictions as those imposed on banks. Their concern was that CSDs would use their control of the final settlement function (recall that settlement is complete only when the central securities depositories accounts have been updated) to subsidize more lucrative asset servicing business, like securities lending. Hence, banks in the asset servicing business wanted a directive to contain the competitive threat from CSDs, and in particular Euroclear.

By contrast, the camp against the directive was populated by a variety of entities: first and foremost Euroclear, but also Europarliamentarians worried that a directive would become hostage to special interests (see, notably, the positions of Theresa Villiers, who was Rapporteur on posttrading in 2004) and some very influential representatives from the London financial community (like, for example, Sir David Walker and Sir Nigel Wicks, also Deputy Chairman of Euroclear). In general, those who argued against a directive pointed to two things: a directive would take too much time to be produced (the consensus view is that the time to produce a directive is four years), and a directive would be distorted by special interests (in other words, the EU political process is seriously faulty).

The decision not to issue a directive was, in my opinion, the key mistake at the root of the lack of progress in the removal of barriers related to rules, regulations, and laws. It was a mistake for the simple reason that rules, regulations, and laws not consistent with an integrated posttrading market can only be changed by new rules, regulations, and laws: since this reform has to be coordinated across Europe, a directive appears to be the natural tool to achieve the task. Commissioner McCreevy apparently did not recognize this point. He justified his decision with his general aversion to lawmaking: he said that laws have to come in only when the private sector fails to get things done according to the desired plan.[13] Instead of a directive, McCreevy took the initiative to coordinate the signing (in November 2006) of a code of conduct by the stock exchanges, the clearinghouses, and the CSDs. The code contained commitments toward price transparency, access and interoperability, and service unbundling. This was a welcome initiative—as many national monopolies have in the past actively used complex and opaque pricing systems, bundling strategies, and restrictive practices to maximize their profits—but in no way could it represent a substitute for what a directive was meant to do. Indeed, the code does not remove regulatory barriers, such as, for example, the requirement of a license for remote access.

Similarly, the Markets in Financial Instruments Directive, which sets the principle of freedom of choice of posttrading venues, does not remove

12. See Fair & Clear (2004).
13. See McCreevy (2006).

legal barriers to consolidations or prevent the protection of national champions.[14]

The hypothesis presented in this chapter is that the slowdown of financial market integration described before is not the result of individuals' initiatives, even though those are the proximate causes. The reason why the reform did not occur is that all national governments and the EU Commission were not of the opinion that such a reform would be a serious priority, and that this opinion was informed by market participants in pursuit of their interests. In the next section, I try to uncover the political economy of financial market reform.

7.6 Why Has Integration Not Been Delivered? The Political Economy of Financial Reform

The history of the European Union is characterized by some bold reforms in economic institutions that have had a major impact on societies and living standards. Among these, monetary union stands out as a huge, successful reform that has been carried out relatively quickly. From the perspective of political economy, monetary union appears very interesting. Elsewhere (Giovannini 1992) I have argued that monetary union was a reform for which gainers and losers were not clearly identified groups. This stands in contrast with other international liberalizations, like trade reforms, where gainers are all consumers and exporters and losers are those working in import-competing industries. The financial industry stood to gain from new opportunities but to lose from the closing down of foreign exchange market "while forex traders were obviously and vocally against their bosses, and in general the broker-dealer community was supportive of the project, as it saw its benefits in terms of potential new business." (Graham Bishop, private conversation with the author, July 25, 2008).

In the presence of a vacuum of political forces for or against, a reform like monetary union is subject to two kinds of forces: on one side, elites that see the economic benefits of the reform can push it through the political process with relative ease because they do not have to fight with the political influence of the sectors negatively affected by the reform, as in the case of trade liberalization. On the other side, the national currency lends itself to becoming a symbol for other objectives. For example, those who stand to lose from liberalization in general may seek to stop the process by derailing monetary union. Because the national currency is a highly visible symbol, and because the complexities of a monetary union are not immediately clear to everybody, strategies of this kind may actually work.[15] On balance, it appears that

14. See Turing (2008).

15. See, for example, the debate that surrounded the Swedish referendum on the single currency.

in most countries the reform has gone through relatively smoothly and that those exploiting it for other purposes have been few.

A reform of posttrading that facilitates the creation of a single, integrated clearing and settlement platform has potentially a very large positive economic impact on the countries involved.[16] The positive impact of an integrated capital market is not easy to estimate through the standard static analysis: Hotelling triangles are hard to estimate (since supply and demand elasticities in the case of securities trading can be very large indeed). In addition, the interesting and relevant economic effects are not those measured through partial equilibrium analyses of the securities markets, but stem from the effects that a single, integrated securities market has on capital formation and risk-taking in the EU economies as a whole. This is a very difficult problem to address. The EU Commission has valiantly taken up this task in its impact assessment, and has produced estimates on the incremental impact of the reform on EU-wide gross domestic product (GDP), with a permanent increase ranging between 0.2 percent and 0.6 percent. An analysis of these estimates is beyond the scope of this chapter. It suffices here to point out that, as several authors have noted, there is abundant historical evidence on the nexus between an efficient financial system and economic performance: see, for example, Rajan and Zingales (2003). Thus, the desirability of the reform is, among the informed public, easy to accept. The difference between this reform and monetary union is that the integration of financial markets infrastructure is below the radar screen of parliamentarians because it is an arcane topic, just like plumbing. Indeed, even within the EU Commission recognition of the importance of the post-trading infrastructure has arrived late: the so-called Financial Services Action Plan, a comprehensive strategy aimed at creating an integrated and efficient EU financial system, in its initial versions, did not contain any mention of the urgency of reforming posttrading, which turns out to be the precondition for any meaningful integration of markets. The Economic and Financial Committee of the EU launched a research program on the importance of financial markets infrastructure after hearing a presentation of the Giovannini Group (2001).[17]

Hence, like monetary union, the reform of posttrading is one that informed people think brings large benefits, although these benefits are not easy to explain and not understood by the larger public. In addition, the individuals who will stand to lose from the reform are hard to identify: there may be a number of people who are made redundant by the creation

16. See the Impact Assessment prepared by the staff of DG Markt: EU Commission (2005).

17. In that presentation I argued that the state of financial markets in Europe was like that of a country after a war: everybody is happy to be free, governments declare the start of peace, but nothing works and the situation is as miserable as during the war. Similarly, allowing free trade of securities in the EU was not any reason for complacency, since European financial markets were hopelessly fragmented.

Table 7.6 Schematic of economic incentives to reform

	Status quo	Reform
Users: Intermediaries, investment managers	Pay high costs, though costs are passed through	Lower costs. Gains from new business opportunities are there but not so visible
Suppliers: for-profit market infrastructures	High profit margins, relatively low volumes, protected market share	High volumes, low margins, potential prize of becoming the sole supplier, or sanction of being taken over

of an integrated and efficient posttrading platform in the EU, but these people normally do not have political representation. Hence, the standard political-economic analysis does not apply. In what follows, I try to highlight a number of effects that I have observed that may help explain the outcome so far.

In table 7.6 I summarize the economic incentives of the two classes of interest groups for the status quo and reform. As mentioned previously, the users' community, which is aware of the costs of posttrading, is the community of intermediaries, securities trading houses (broker-dealers), and investment managers. This group does not suffer directly from the costs of posttrading as it is able to pass this cost along to their customers. Since the cost is a system-wide cost, it does not produce a disadvantage to any one institution. Financial intermediaries have some interest in lower trading costs, especially as they would give rise to more business opportunities, though these opportunities are not immediately apparent. Therefore, the opportunity cost of no reform is not very high for the users' community.

Now consider suppliers. Under the status quo suppliers have low volumes in cross-border business, but very high unit revenues. In an integrated market, volumes are presumably much higher, and there is the potential of becoming the sole supplier in every zero marginal cost segment of the business. Of course, there is also the risk of losing the competitive game in the bigger market. Hence, suppliers would either resist integration or try to influence the reform process in a way that advantages their own chances of becoming the winner-take-all.

Resistance to integration has been evident in recent years. One manifestation of it has been the development of so-called "financial-marketplace" committees in various EU countries. Until recently, these committees have worked with the explicit aim of maintaining and fostering the business of the national financial market, typically around the national stock exchange. The strategies followed by the financial-marketplace committees, which often included government authorities playing the role of observers or coordinators, were to make the domestic market somehow different from foreign

markets, making it somehow special. In other words, the strategy was to erect various regulatory, convention, and other barriers to foreign competition.

This strategy is fraught with what I call the fallacy of localism. Local financial markets are, more than international financial markets, populated by medium and small intermediaries that can use their size to their own advantage. They are physically closer to customers and through specialization they can reach excellence in certain areas of the financial business. By their nature, small intermediaries cannot sustain large fixed costs. Now consider two alternative structures for the EU financial market. The first structure, like the present, is characterized by a sum of largely isolated, though accessible, national markets. The markets are isolated because they are characterized by standards, conventions, and regulations that are specific to each one. An alternative structure is one where standards, conventions, and regulations pertaining to all markets are the same, so that the EU can be considered a truly single marketplace. Under both market structures investors and issuers would want to take full advantage from the possibility of accessing all markets. However, under the first structure, few intermediaries would have the resources needed to allow their clients to access all EU national markets. Indeed, for each market, intermediaries would have to deploy the resources that are needed to perform all procedures specific to that market. With twenty-five EU member states, this cost becomes prohibitive to any medium-small intermediary. By contrast, under the alternative market structure, there would be no additional cost to access other markets because there would not be any procedures that are specific to that market. This example illustrates the fallacy of localism. Those policymakers that create national financial marketplaces with the aim of protecting domestic (small- and medium-size) intermediaries, are not taking into account that all people want and/or need access to all markets. In fact, the financial marketplace policies end up crowding out small and medium financial intermediaries in favor of large, multinational intermediaries that are able to exploit their size to finance the fixed costs needed to give all their clients access to all domestic markets. In conclusion, strategies that are designed to protect domestic financial intermediaries end up giving them a competitive disadvantage, as long as there remains freedom to trade financial assets and freedom to establish financial businesses in different EU countries.

Another factor affecting the reform process is the technical nature of the subject combined with the role of clearing and settlement at the core of the financial markets. The fundamental dilemma of policymakers is that they have to set rules on issues that they do not know firsthand, or on which they have partial information. The functions of liquidity transformation and risk trading (which is accomplished through leverage) performed by financial markets make them inherently fragile, prone to multiple equilibria and excess volatility. Thus, financial market reform is an area of policy-making where the dilemma presents itself in very stark form. On one side, the sub-

ject matter is highly technical and complex, with many implications, some difficult to predict; on the other side, wrong decisions may raise especially serious risks: an inappropriate reform may create additional instabilities with potentially very large economic costs. The result is that policymakers involved in financial market reform are especially vulnerable to regulatory capture: they are particularly sensitive to ideas and suggestions of practitioners in the field, who are also interested parties.

Finally, and related to the point made before, I have one observation about consultative reforms. As described above, CESAME was designed to provide information to industry actors, policymakers, and the users' community at large, and through the dissemination of information, to act as a coordinating device. The virtual absence of the users' community was evident in CESAME. In addition, regular industry representatives were in most cases individuals, within companies or associations, in charge of institutional relations (managing relations with policymakers and regulators, often based full-time in Brussels), and therefore not directly involved in the technicalities of posttrading. In these conditions, the risk that industry interests are overrepresented is higher.

In summary, the political economy of the reform of EU financial market infrastructure has the following characteristics:

- Like monetary reform, it is an arcane subject with little genuine political appeal.
- Like other forms of international liberalizations, the gainers are disperse and largely unaware of what is going on, let alone the potential gains of the reform.
- The industry of financial markets infrastructure is not all against reform, but many actors feel threatened by it (many protected markets would disappear).
- The intensely technical nature of the reform hinders the power of initiative of authorities.
- The consultations process allows de facto overrepresentation of posttrading industry interests.

These conditions would lead to predictions that broadly match the actual outcome so far: reform has been very slow; all fundamental aspects of reform, that is, the legal and regulatory framework that would allow true consolidation and integration of posttrading service providers, are still to start in a significant way. In other words, since the interest groups with relatively more effective influence on policymaking are ambivalent about the gains from liberalization (some certain market advantages would be lost), and since policymakers are not under pressure to move forward—and may well be concerned about undesired and unforeseen effects of reform—progress has been very slow. In the concluding section I will try to identify some lessons on the appropriate design of mechanisms to manage a reform process in financial markets.

7.7 Concluding Remarks

After the introduction of the single currency, the construction of a truly integrated and liquid securities market appears in the natural development in the EU, and a worthwhile objective for its impact on financial intermediation and the efficiency of EU economies. The creation of a single EU securities market is proving a much harder task than those who conceived it initially envisaged. This chapter has discussed the lack of progress in the reform of financial market infrastructure in the EU.

To explain why the pace of reform has, so far, been much slower than expected, I have highlighted a number of issues. First, the EU financial market status quo is very complex. There are a multitude of different standards, conventions, rules, regulations, and laws, which coexisted easily in a condition of very limited cross-border financial activity, but have become a huge hindrance as cross-border transactions are allowed and are needed. With this kind of initial conditions, a reform plan requires a complex, concerted action that involves public and private actors alike, from all countries involved in the reform. In this process, legacy players (the current providers of posttrading services) are by necessity crucial actors. Under the status quo legacy players enjoy stable market shares (mainly due to regulatory frameworks that enforce their monopoly rights in the countries where they are based) and high profitability to cross-border business. Because of this, it would not be expected that legacy suppliers would welcome bold reforms that would in a sweep dramatically increase competition among providers in all countries.

The EU Commission and national governments have all recognized the importance of reform, but have made very little progress in the long list of initiatives that they originally laid out for themselves. I argue that lack of leadership by government authorities is the main cause of the insignificant progress so far. The main cause of governments' lack of leadership is difficult to identify. My hypothesis is that it is the result of the combination of two sets of factors:

1. The distribution of economic payoffs: each of the existing providers faces the threat of decreased protection and increased competition, while those who certainly stand to gain (final investors) are unaware of the reform, let alone of its benefits.
2. Government authorities' reform task is highly complex and delicate: the perception of risks is heightened and their tendency to rely on the advice of legacy providers is increased; this condition needs to be contrasted to monetary union, where the vast majority of the knowledge on the technicalities and the economic impact of the reform resided with central banks, which are public authorities and are not driven by profit motives.

Under these conditions, it is unlikely that government authorities would push hard for reform: indeed, developments so far are consistent with this

hypothesis; the key actions that were expected of EU lawmakers have yet to occur.

Looking back at the history of the attempt of reforming European financial markets infrastructure it is natural to ask whether, with the benefit of hindsight, the design of the reform mechanism could be improved in any way. As mentioned before, in 2004 the Commission stated its intentions to draw up a Directive on clearing and settlement that addressed questions of rights of access and choice, a common regulatory framework, and governance. If the process to issue the directive had started then, now it would be at a very advanced stage, if not completed. In the complex interaction between the work of government authorities and that of the private sector, as described in this chapter, it cannot go unnoticed that the private sector's motivations to push ahead crucially depends on authorities' revealed preferences: if the authorities' actions do not match the strategy that they themselves have laid out, private market participants may not believe in the reform's momentum.

Alternatively, more top-down initiatives aimed at consolidating the fundamental functions of clearing and settlement—like facilitating the creation of an EU-wide clearing platform and a single CSD—could still be feasible though much more difficult to put in place, as the interests of those private suppliers that want to drive this consolidation may be at odds with these projects. The experience of the Target 2-Securities project of the European Central Bank (which provides a securities' settlement functionality with central bank money) is a good illustration of this difficulty. Even though the project is moving ahead, it has been subject to heavy criticism by the industry, which has waged a campaign to discredit it. However, even if top-down strategies were to become more feasible, the requirement of an appropriate legal and regulatory framework, which presupposes new rules and laws to be issued by national authorities, does not go away.

I would like to conclude with a note of optimism: even though progress has been disappointingly slow, the direction of reform has been broadly correct and, in particular, the project to create an integrated and efficient securities market in Europe is understood and shared by an ever-larger number of people. These are important and encouraging achievements, which do not preclude, at any moment, an acceleration of the pace of reform.

References

Aggarwal, R. 2002. Demutualization and corporate governance of stock exchanges. *Journal of Applied and Corporate Finance* 15 (1): 105–13.

Bertrand, A. 2006. Possible use of CPIs for globalisation indicators and investment protection analysis. Paper presented at the International Conference on CPIs, Bank of Spain. 1–2 March.

Center for Excellence in Science and Mathematics (CESAME). 2008. The work of the Clearing and Settlement Advisory and Monitoring Experts Group. Report. Brussels: CESAME.
Di Noia, C. 2002. Customer-controlled firms: The case of financial exchanges. In *Capital markets in the age of the euro,* ed. G. Ferrarini, K. J. Hopt, and E. Wymeersch. Kluwer.
European Central Bank. 2007. *Financial integration in Europe,* March. Frankfurt: ECB.
EU Commission. 2004. *Clearing and settlement in the European Union—The Way Forward.* Communication from the Commission to the Council and the European Parliament, COM(2994) 312 final, 28.4.2004.Brussels. Directorage General for the Internal Market
———. 2005. Draft working document on post-trading. Unpublished manuscript. Available at: http://ec.europa.eu/internal_market/financial-markets/docs/clearing/draft/draft_en.pdf.
Fair & Clear. 2004. Contribution to the communication on clearing and settlement in the european union—The way forward. Unpublished manuscript. Paris, BNP Paribas.
Giovannini, A. 1992. EMU: What happened? Exploring the political dimension of optimum currency areas. In *The monetary future of Europe,* ed. G. de la Dehesa, A. Giovannini, and R. Portes. London: CEPR.
Hansmann, H. 1996. *The ownership of enterprise.* London: The Belknap Press of Harvard University Press.
Krugman, P. 1994. *Rethinking international trade.* Cambridge, MA: MIT Press.
McCreevy, C. 2006. Clearing and settlement: The way forward. Speech presented to the Economic and Monetary Affairs Committee of the European Parliament, July 11.
NERA Economic Consulting. 2004. *The direct costs of clearing and settlement: An EU-US comparison,* City Research Series no. 7. London: Corporation of London.
Norman, P. 2007. *Plumbers and visionaries—Securities settlement and Europe's financial market.* London: John Wiley & Sons, Ltd.
Rajan, R., and L. Zingales. 2003. *Saving capitalism from the capitalists.* New York: Crown Business.
The Giovannini Group. 2001. *Cross-border clearing and settlement arrangements in the European Union.* Brussels: European Commission, November.
———. 2003. *Second report on EU clearing and settlement arrangements.* Brussels: European Commission, April.
Turing, D. 2008. After Giovannini—A new agenda for clearing and settlement. Clifford Chance, LLP. Unpublished manuscript, May.

Comment Richard Portes

Having read Alberto Giovannini's chapter, I feel I have crossed a barrier: I finally understand clearing and settlement (C&S), if not the complicated plumbing, at least the underlying issues. Europe has "Polish plumbers"

Richard Portes is professor of economics at London Business School, founder and president of the Centre for Economic Policy Research (CEPR), and a research associate of the National Bureau of Economic Research.