Working document of the Commission services

Competition in EU securities trading and post-trading

Issues Paper

* Includes corrigendum in charts on pages 12 & 13
Executive Summary

Integration of EU financial markets is essential for their future efficiency. Competition has a fundamental role to play both in the process of integration and in any future market scenario as it contributes to sustainable, attractive and highly performing capital markets as well as services to pension funds, asset managers and final investors.

The Commission has a long standing interest in ensuring that the cross-border trading, and post trading\(^1\) of securities is both safe and works as efficiently as at domestic level. This has been demonstrated by its support of working committees composed of eminent industry participants such as the Lamfalussy Wise Men’s group and the Giovannini groups, as well as the on-going CESAME and De Brower groups. Each of these has provided valuable advice to the Commission on appropriate steps to take to move from markets fragmented along national lines to an integrated EU market for securities.

The EU has recently adopted legislation that will change the way investment services and securities trading will evolve in the European Union. Directives such as the Markets in Financial Instruments Directive (MiFID), which will enter into force in November 2007 provide for a regulatory framework which is intended to promote fair competition between investment firms and trading service providers whilst also being attentive to the protection of the interests of investors and the competitiveness of the European financial industry as a whole. The Commission is currently considering options relating to post trading.

Although financial services are governed by specific regulatory provisions, they remain subject to competition rules. DG Competition works closely with the national competition authorities in this respect. Good decisions are based on a well-founded assessment of the market structure and its dynamics. The aim of the fact finding exercise which has led to the present paper was to better understand these particular markets and to consider if competition is developed to its full potential or if certain barriers prevent it. Analysis of detailed financial, legal and documentary data from all parts of the industry has led to the following findings:

- Competition in trading services is possible and desirable, but may be being impeded in a variety of ways.
- Access to fungible clearing arrangements is one prerequisite for competition to be effective and therefore must be assured on a non-discriminatory basis.
- CCP services could - and probably should - operate in a competitive environment provided issues of interoperability are overcome.
- Vertical integration may result in foreclosure at all levels of the value chain and therefore lead to welfare losses. Whilst there may also be efficiencies, so far the Commission has seen no convincing evidence to substantiate this.

\(^1\) “Clearing and settlement” may have misleadingly narrow connotations. Therefore, in keeping with the draft working document recently prepared by DG Internal Market and Services (see \[http://ec.europa.eu/internal_market/financial-markets/clearing/index_en.htm\]), we refer to these activities as “post-trading”.

A combination of regulatory measures, appropriate action by the industry and the application of competition rules is likely to be the most efficient way of achieving integrated financial market structures.

Users and final investors have an important role to play in obtaining a competitive environment at all levels of securities trading and post trading.

In issuing this paper the aim is to provide feedback to the industry and to solicit proposals for the elimination of barriers to competition. Any other comments on the present paper, particularly from those directly concerned by the barriers identified or those having a responsibility in their removal, are very welcome.
Table of Contents
Executive Summary ................................................................................................................... 2
1 Introduction and scope ....................................................................................................... 5
2 The economic issues at stake ............................................................................................. 6
3 Economic characteristics of the industry ........................................................................... 7
  3.1 Trading services ......................................................................................................... 7
  3.2 Clearing services ........................................................................................................ 8
  3.3 Settlement services ..................................................................................................... 9
4 General issues............................................................................................................... ...... 9
  4.1 Current competition.................................................................................................... 9
  4.2 Cost of trading.......................................................................................................... 10
     4.2.1 All-in cost of trading and post trading ............................................................. 11
     4.2.2 Costs to final investors ..................................................................................... 14
  4.3 User and other views on potential competition........................................................ 16
5 Barriers to competition..................................................................................................... 17
  5.1 Barriers to competition in trading services ................................................................ 17
     5.1.1 Concentration rules and equivalent measures .................................................. 17
     5.1.2 Control over clearing and settlement services.................................................. 18
     5.1.3 Fee related issues .............................................................................................. 19
     5.1.4 Broker trading technology................................................................................ 20
  5.2 Barriers to competition in clearing services ............................................................. 20
     5.2.1 Limitations of the model of competition for the market .................................. 20
     5.2.2 Mutual interest in arrangements which foreclose competition ....................... 21
     5.2.3 CCPs in vertical silos ....................................................................................... 21
     5.2.4 CCP interoperability ......................................................................................... 21
  5.3 Barriers to competition in settlement services ......................................................... 22
     5.3.1 Interoperability issues ...................................................................................... 22
     5.3.2 Price sensitivity and transparency .................................................................... 22
     5.3.3 Possible foreclosure of agency settlement and custody ................................... 22
  5.4 Other issues .............................................................................................................. 23
     5.4.1 Lack of user incentives..................................................................................... 23
     5.4.2 User ownership of clearing and settlement ...................................................... 23
     5.4.3 Accounting transparency.................................................................................. 23
     5.4.4 Consolidation ................................................................................................... 24
6 Consultation on possible ways forward ........................................................................... 24
Annex 1 - User expectations of the impact of more competition in trading ............................ 27
Annex 2 - Methodology for pro forma calculations of trading fees......................................... 28
Construction of user profiles .............................................................................................. 28
Calculation of per transaction costs ..................................................................................... 28
1 Introduction and scope

(1) In 2001, the Lamfalussy group of Wise Men recommended that competition in securities trading, clearing and settlement should be monitored.

(2) In June 2004\(^2\), following a detailed investigation, the Commission took a decision finding that Clearstream had infringed EC competition rules by refusing access to primary clearing and settlement services to Euroclear in a specific area of its business and by applying discriminatory pricing.

(3) In July 2005, the Commission investigated a possible infringement of competition rules by Euronext. In response to new market entry by London Stock Exchange in the trading of Dutch equities, Euronext had reduced its prices temporarily in a way which might have infringed competition rules. Thorough investigation demonstrated that in this specific situation, this was not the case and the investigation was closed\(^3\).

(4) The Commission has gathered information on the precise structure and organisation of the sector in EU 25, to identify who does what and understand how the different activities are structured and interrelate, and to identify in what areas, if any, potential competition issues could arise. Such empirical understanding can provide a basis for ex-officio investigations as envisaged by Regulation 1/2003\(^4\). After extensive consultation, the report on “Securities trading, clearing and settlement in EU 25”, was published in June 2005\(^5\). It concluded that vertical arrangements were pervasive in this activity throughout EU25 and that contrary to banks’ preferences there was little or no choice in the location of clearing and settlement.

(5) Starting in July 2005, a series of questionnaires was sent to selected market participants, including exchanges, alternative trading system operators, clearinghouses, settlement providers and a number of broker-dealer banks and associations. These questionnaires aimed at gathering opinions on possible and desirable market developments, financial and trading data, and legal and contractual links between players at various levels of the trading value chain. Their purpose was to assess whether there were grounds to further investigate individual arrangements on the basis of articles 81 and/or 82 (or conceivably 86) of the Treaty, but the findings also demonstrate some general market failures as well as certain market features which, whilst not excluding the application of competition law, nonetheless make it difficult in practice. DG Competition received input from service providers and broker-dealers representing around 90% (by volume and by value) of on-exchange traded cash securities in 2004\(^6\). Simultaneously, DG Internal Market has been studying the post trading levels with a view to presenting conclusions as to whether or not there

---

\(^2\) http://europa.eu.int/comm/competition/antitrust/cases/index/by_nr_76.html\#i38_096


\(^4\) http://europa.eu.int/comm/competition/antitrust/legislation/regulation.html


\(^6\) In this paper we will frequently refer to the “users” of trading and post-trading services; this term refers mainly to the brokerage and proprietary trading arms of the large investment banks as well as specialized brokerage houses and other direct participants in the market.
is a need for further regulatory intervention. DG Competition’s findings are in part relevant to this ongoing discussion.

(6) The present Issues Paper presents the initial results of this phase of fact-finding. Its primary focus is on problem identification rather than proposing specific remedies. Obviously, specific business situations and detailed information are outside the scope of this paper, which aims to give a broad oversight of issues and problems in the sector, many of which are interlinked and may require action of several kinds and at several levels.

(7) DG Competition’s work so far has concentrated on cash equities and on trading and post-trading infrastructures, although the issues raised by this paper are also relevant to trading in other asset classes and to the role of sell-side intermediaries.

2 The economic issues at stake

(8) It has frequently been observed that the cost of trading and post trading of securities is much higher in the EU than in the US at a domestic level, and even more so cross-border. This means that the firms who operate the infrastructure of these markets engage in an activity with significant macroeconomic externalities. Studies estimate static efficiency gains from integrating EU markets with a present value of around €100 billion\(^7\). The dynamic effects associated with more efficient capital markets could, and probably would, significantly increase these gains even further.

(9) Financial markets have therefore come a long way since they first arose as mutual associations of dealers. As volumes traded continue to increase year on year, many exchanges are now profitable businesses. Several European exchanges and their associated post-trading infrastructures are now operated by normal, often listed companies, with varying degrees of user influence and control.

(10) Demutualization has stimulated investment and innovation. However, it has only to a very limited extent led to greater competition amongst service providers. As in any market, market power is likely to be correlated with undersupply, meaning, in this case, less trading and hence less liquid financial markets. Broker-dealer banks are very sensitive to the level of trading fees and often suggest re-establishing utility-style regulation of infrastructures. This underestimates, however, the potential role of competition in achieving lower prices and a greater range of services. By reducing the cost of capital for Europe’s businesses, more competition would translate ultimately into additional growth and jobs.

(11) It has long been assumed that the various levels of the trading infrastructure enjoyed some kind of “natural monopoly”. In recent years, however, there has been evidence to challenge this view. Experience has shown that virtually all instances of competition

---

\(^7\) London Economics, Quantification of the Macro-economic Impact of Integration of EU Financial Markets, November 2002. The gains considered result from a drop in the average cost of capital for listed companies of around 0.5% in absolute terms. Note that the models used looked at gains resulting from enhanced cross-border liquidity and the reduction of the fixed costs of trading through infrastructure consolidation; they did not estimate monopoly rents or gains from their elimination, which are a further potential source of efficiency.
between trading venues have led in practice to decreased trading spreads and therefore more efficient markets.

(12) In any case, even if the market were eventually to tend towards monopoly provision, there would still be significant scope for competition amongst legacy national providers during a possibly lengthy transitional phase, and with providers from third countries, due to the potentially low marginal costs of entry. The notion of “natural monopoly” fails to capture this reality.

(13) For these reasons, the 2004 Markets in Financial Instruments Directive (MIFID)\(^8\), directly encouraged competition in trading. In various contexts, US competition authorities have also come out in favour of competition between trading platforms\(^9\).

3 Economic characteristics of the industry

3.1 Trading services

(14) The relevant economic literature points out that stock exchanges, as well as alternative organised trading systems such as Multilateral Trading Facilities (MTFs), compete for order flow on the basis of market quality, explicit trading costs, and in some cases order flow\(^10\).

(15) Organised cash market trading, either on exchange or through alternative trading systems, is generally viewed as exhibiting significant economies of scale and scope. Trading through organised markets, stock exchanges or MTFs, is also said to exhibit strong network effects in the form of deeper liquidity and attractiveness to new issuers\(^11\).

(16) In themselves, economies of scale and network effects tend to give rise to strong conglomeration effects. There are examples of liquidity, if it moves at all, tipping rapidly to a new venue. However, the rise of alternative trading systems with different microstructures provides evidence to the contrary\(^12\). Furthermore, the continued competition in trading Canadian securities between the Toronto Stock Exchange and U.S. trading infrastructures suggest that sustained competition in trading can occur also amongst regulated exchanges. For example, Carpentier et al. (2004) report that, in the case of Canadian securities cross-listed in the United States (either on the NYSE or Nasdaq), the share of trading of such securities in the United States accounted for between 30% and 55% of all trading activity in these securities over the period 1990-

---

\(^8\) Directive 2004/39/EC


\(^11\) For example, see Economides (1993, 1995) and Pagano (1993).

\(^12\) The earlier academic literature concluded that, due to economies of scale, trading in a particular security would tend to cluster eventually in a single location (Stigler (1961, 1964), Doede (1967) and Demsetz (1968). Other earlier studies tended to argue that, because of liquidity effects (i.e., network effects), trading would concentrate onto a single infrastructure (Davis (1990), Telser and Higinbotham (1977), Telser (1981), and Pagano (1989). In contrast, more recent studies such as those by Degryse and Van Achter (2002), Glosten (1994), Lipson (2003), Parlour and Seppi (2001) suggest that competing trading infrastructures will continue to exist if they differ in terms of microstructures.
2003 with no apparent trend of liquidity concentration onto a single infrastructure. Various factors (including the use of comparative trading tools by brokers) also explain the split of liquidity observed on NYSE and NASDAQ themselves. Within the EU there are no notable examples of this kind, outside of a few individual shares with dual or multiple listings, and even in these cases liquidity has mostly consolidated on a single platform. It has, however, been noted that rival exchanges quite often have better prices which are, however, not hit\textsuperscript{13}, raising the prospect that better trading technology might lead to a different outcome.

(17) Investors access trading facilities through brokers. Broker dealers may trade on their own account or on account of their customers. Brokers’ access to trading facilities may be direct or remote (depending on whether the broker has or not local presence in the Member State where the trading facility is located), or indirect. The choice of access depends on a series of cost/benefit criteria. Dematerialisation of trading venues and harmonisation of access rules in EU has certainly contributed to the increase in remote membership of exchanges. On the whole remote access is possible and used for trading where volumes are sufficient. Remote access for clearing and settlement is rarer because of a series of obstacles to cross-border clearing and settlement, the so-called Giovannini barriers. In addition, remote membership of clearing and settlement is perceived by many users as representing too high a fixed cost for them to justify. Greater interoperability of CCPs and CSDs could reduce this cost.

3.2 Clearing services\textsuperscript{14}

(18) Competition in the provision of clearing services might in principle take two different forms:

- “competition in the market” where two or more clearing infrastructures compete in the provision of clearing services to the trading members of a given stock exchange, and

- “competition for the market” where only a single clearing infrastructure provides clearing services to the trading members of a given stock exchange but the selection of the clearing infrastructure is open to competition on a periodic basis, for example, by putting the contract for the provision of CCP services to open tender.

(19) Some trading members are not members of the CCP but make use of an agent for this purpose.

(20) While there exist economies of scale in securities clearing, and a number of market participants have actively called for the creation of a single European CCP, no study, at least to our knowledge, has empirically investigated the minimum efficient scale or whether the costs of monopoly provision (such as in terms of higher prices) would

\textsuperscript{13} See for example Board, J., and Wells, S. (2000), “Liquidity and Best Execution in the UK: A Comparison of SETS and Tradepoint”

\textsuperscript{14} Within the scope of this paper, “clearing services” generally refers to CCP clearing.
outweigh the scale effects. Moreover, how the market might consolidate in practice is not clear yet.

3.3 Settlement services

(21) Economic literature relating to settlement is scarce and not very reliable. It is difficult to obtain sufficient practical understanding of the industry – in particular of the distinction between exclusive roles and competing roles undertaken by the same institution. The specific conclusions obtained by studies are dependent on the assumptions underlying the model used in the analysis. However, it is generally accepted that settlement can benefit from economies of scale. Settlement implies an irreplaceable role for Central Securities Depositories (CSD). Once securities are deposited, there can no longer be competition for the settlement activity in the issuer register. Such primary settlement is often considered a natural monopoly activity (there is one equity CSD in each Member State). Legal and fiscal conditions make competition for a CSD market difficult to envisage in the short/medium term.

(22) One form of competition can occur where intermediaries compete for settlement flow, independently of whether the settlement will take place in the issuer CSD or within the books of the intermediary. Although there is some competition in agency settlement, certain provisions may inhibit it from developing further.

(23) There are no indications that competition in agency settlement reduces the level of rents available to the CSD, which will in any case retain an irreplaceable role, as several banks commented in their replies to the ESCB-CESR consultative report.

4 General issues

4.1 Current competition

(24) The limited degree of competition in EU securities trading and post trading markets is striking.

(25) Where there has been competition in trading (such as in the case of the LSE’s Dutch Trading Service in competition with Euronext), users appear to have benefited. Similarly although the relationship of cause to effect might not be totally direct, the

---

15 In fact, we are not aware of any empirical studies of European CCP activities although there exist a number of studies focusing on risk issues related to CCPs. For a recent overview of such literature see Ripatti (2004).

16 Internalisation is the process whereby an intermediary annotates the transaction between two counterparties in its own books instead of using the services of the CSD. This presupposes that the counterparties are clients of the same intermediary and that the transaction does not change the position of the intermediary in the register of the CSD. Global custodians and ICSDs compete at this level and in the provision of related services.

17 The actual extent and importance of internalisation remains unknown, with banks claiming it is marginal and CSDs claiming it is widespread. Attempts by ECSDA under mandate from the CESAME group to collect this data were unsuccessful as major countries did not supply the data. [ref CESAME minutes 06.02.06 when published]

entrance of virt-x into the trade reporting market for UK equity transactions was followed by a reduction of fees by the incumbent. As already mentioned, significant instances of competition in trading exist in third countries, notably in the US and between the US and Canada.

(26) For securities listed on national stock exchanges, the location of issue of a security almost always automatically determines its trading location. The exchange has the regulatory obligation to ensure that trades will be completed in a secure and safe manner. Consequently exchanges, often through their rules or through other similar means, designate the way in which trades are to be cleared and settled and to which institutions these central functions are assigned. For subsequent post-trading processing services a number of (often exclusive) arrangements between exchanges and clearing and settlement institutions determine the location of post-trading operations.

(27) A consequence of this is that the exchange may have the power to allow or disallow competition in post-trading services. Although traders on virt-x and MTS Italy have a choice of location of CCP services, this is not the case for the majority of EU exchanges. However, there is at least one example of a CCP giving a choice in the settlement location, albeit only between entities belonging to the same group.

(28) To date, no exchange or CCP has appointed more than one CSD, although some provisions exist for this theoretically. Certain CSDs have developed links with another CSD to provide intermediary services. This includes not only EU but also US and Asian CSDs. The volume of activity passing through these links is reported to be fairly low.

4.2 Cost of trading

(29) DG COMP’s questionnaire included questions aimed at assessing the cost of trading and post trading for users. In this respect we endeavoured to come at the issue from two angles, namely, from users’ own data as well as making use of the published fee schedules of the various infrastructures.

(30) In this respect, a number of points should be made.

(31) Firstly, few broker-dealers were able to demonstrate an ability to break management accounting data down either by product or by customer. This means that the data we have been able to rely on has been limited.

(32) Secondly, it is not possible to define an “objective” measure of the cost of trading. It is composed of many elements and the contribution of each to the total varies from case to case. This in itself makes it difficult to carry out an objective analysis of the causes of high all-in costs for trading. For example:

- The cost of trading may vary by trader and by exchange in function of a series of factors, and in particular the individual user’s trading profile (wholesale or retail trades, algorithmic trading…).
Costs of clearing and/or settlement may be difficult to evaluate. Where there is a CCP which offers settlement netting, the additional cost of the CCP can usually be offset by lower total settlement fees. It may also be difficult to distinguish settlement from custody fees.

Where a component of the cost is represented by fixed fees, the means to attribute these to individual trades is relatively arbitrary. A similar problem may arise with regressive fee schedules.

Thirdly, the execution cost of trading, clearing or settlement represents only one part of the full cost to the broker/investor. Direct or indirect access to these services creates back-office costs such as those for connection and communication, monitoring, reconciliation, collateral, fiscal, legal, billing, relationship management etc. The bundling of services by intermediaries means that investors usually do not know how much they are paying and for what. It is thus also difficult to look at per-trade costs from an investor perspective.

Nevertheless, a number of observations and questions do arise from our pro-forma modelling of all-in costs of trading and post trading based on published fee schedules. For further information on the methodology used, please refer to Annex 2. The calculations do not take into account savings from settlement netting, or additional costs from indirect membership.

All-in cost of trading and post trading

A comparison of all-in fees paid by different user profiles illustrates that at a given exchange, certain profiles incur significantly higher unit costs than others (see chart below). This is particularly the case for low value trades notwithstanding that the value of the trade does not appear to increase costs for the exchange either in operational or risk terms. This may impact retail investors as well as algorithmic traders.

Whatever the user profile, the ranking of the various exchanges is largely unchanged, with the Italian exchange appearing to be an outlier in terms of being rather less expensive. Information would be welcome on the explanations of the difference in magnitude of fees between Borsa Italiana and other exchanges.

---

19 In the graph, the name of the exchange is used in each case, regardless of whether it also controls post trading in the same corporate entity.

20 The fact that Borsa Italiana is a vertical silo does not seem necessarily relevant or a sufficient explanation, considering that Deutsche Boerse’s fees are amongst the highest.
The distribution of fees between the different activities (trading, clearing, settlement) appears to vary considerably (see next chart, based on a typical user as defined above). However, in the case of vertical silos, or in instances where there are contractual financial flows between the various levels, some observers have suggested that the fees charged to clearing or settlement members may bear no relation to the actual cost of operations, making these interpretations somewhat unreliable in most cases.

The fee may also vary even where a single platform serves more than one market. For example a CCP which services trading platform A, B and C may nonetheless charge average clearing fees which vary by a factor of five depending on the market. In some cases this difference may be partly explained by a fee collected by the CCP and paid back to the exchange, even where they are separate legal entities. Since the fee may vary from one market to another and this fee may be partially offset by other financial flows, it may be impossible for the user to have a clear appreciation of the cost of the service and to make an informed decision about alternative clearing channels if these were to become available.
(39) Although financial flows mean that the apparent prices for trading, clearing and settlement may not be a reliable guide to the level of profits being captured by each entity, the distribution of these prices across the value chain still matters. This is notably because trading strategies, and hence liquidity, are likely to be influenced by the vertical price structure, particularly in algorithmic trading. The key parameters affected are the size of blocks traded and the ability to offset settlement costs and collateral costs at the CCP. Whether or not the price structure actually is designed to address this externality is an open question.

(40) Not all banks were able to provide their direct trading, clearing and settlement costs per trading location. Certain indications which can be derived from those which did do so suggest, however, firstly that the most significant differences in the all-in cost to investors between direct (i.e. domestic) and cross-border fees are not directly related to infrastructure fees, and, secondly, that the execution fees charged by intermediaries such as local agents for clearing and settlement are a relatively insignificant source of increased costs for cross-border trading when the investor already has a remote or direct link to the cross-border exchange. However, these indications are based on a small sample of the largest users and should also be interpreted in the light of the broader findings of the draft working document on post-trading being issued by DG Internal Market and Services in parallel to this paper.

(41) Greater transparency would enable customers to make a more informed choice, including of the business case of whether or not to move to a single service provider.

---

21 NB This refers to the fees paid by brokers and broker dealers for trading and post trading. It does not provide a direct indication of the fees which they charge to their wholesale or retail customers.

22 This is consistent with comments of CESAME participants:

23 Execution fees may, however, be only a part of the total cost to customers of intermediaries.

24 See in particular Annex 1 to the draft working document on post-trading prepared by DG Internal Market and Services.
For example, execution costs of clearing and settling transactions are not always distinguished from other custody and banking services.

4.2.2 Costs to final investors

(42) Whilst trading and post trading costs are certainly an important component of the total cost of trading from the point of view of the broker-dealer banks, it is equally clear that they are only a relatively small part of this cost as viewed by the final investor. According to one study\textsuperscript{25}, around three-quarters of costs arise in the brokerage layer and infrastructures capture around 10% (with the rest arising in custody and data services)\textsuperscript{26}. The data we gathered, although limited for the reasons stated above, supports a similar conclusion.

(43) It is difficult to judge whether these figures disguise rents in the intermediary brokerage layer given the lack of analytical data apparently available. To some extent, the price of brokerage services will include costs internalized by brokers because of market fragmentation. Nonetheless, if brokerage markets are less than fully competitive - and this was not a focus of our analysis - we believe that additional competition amongst infrastructures and further market integration could also help to break down any rigidities that may exist at the brokerage level.

(44) Few brokers have a public price schedule for wholesale trading services. Some even claim to have no pricing policy at all. Trades for institutional customers are quoted at an all-in commission where the trade price includes “x basis points” over and above the price at which the broker will trade. Some brokers propose a range of pricing options depending on the level of service provided (pure execution, customer electronic execution or additional services). Often, however, there is little choice as to the service level and fund managers find themselves having to pay fees for services that they do not necessarily want.

(45) This type of arrangement is often associated with so-called soft brokerage commissions. Such commissions arise when a broker charges a fund manager an all-in commission in terms of basis points on the value of trading, which is designed to cover additional services provided by the broker beyond the transaction itself. A certain proportion of the commission is credited to a special account that the fund manager holds with the broker. These funds (called “soft dollars” in the US) can then be used to pay for other services, including, but not limited to, equity research and market information services, provided by or through the broker in question.

(46) The UK Financial Services Authority (FSA) has recently introduced measures to restrict such soft commissions. According to the FSA, a market failure arises because the fund manager is insufficiently sensitive to the commission rate because it is anyway charged on to the fund, and hence the final investors pay. Fund managers, it is

\textsuperscript{25} Morgan Stanley and Mercer Oliver Wyman, Equity Research paper of June 2003 entitled “Structural Shifts in Securities Trading: Outlook for European Exchanges”.

\textsuperscript{26} Morgan Stanley and Mercer Oliver Wyman, Equity Research paper of June 2003 entitled “Structural Shifts in Securities Trading: Outlook for European Exchanges”.

14
argued, are able to derive private benefits from the use of some of these funds for purposes which do not directly benefit the fund owners, i.e. the investors. Nonetheless, the FSA accepted the argument that research would be undersupplied if soft commissions were abolished entirely.

(47) The FSA’s initiative aims, firstly, at restricting the range of services for which soft commissions could be used to just finance research; secondly, at allowing fund managers to use the funds paid as soft commissions to pay for research performed by other brokers, not only the broker carrying out the transactions and holding the soft commission account; and thirdly, at greater transparency. The new rules came into force at the beginning of 2006\(^27\).

(48) The proposal for MiFid implementing measures adopted by the Commission\(^28\) deals with this issue when regulating inducements and thus establishes a common European regime. Depending on the detailed analysis of the way services are bundled competent authorities will have to decide whether to ban soft commissions or to allow them provided that there is sufficient disclosure. The proposed MiFid implementing measures also enhance fee transparency. They oblige investment firms to give their clients, as pre-contractual information, an itemised breakdown of the different costs and fees they will be charged. In addition investment firms will be obliged, at the request of the client, to report an itemised breakdown of the fees and commission charged for each trade executed.

(49) It is to be hoped that this additional transparency will help fund managers to become more cost sensitive, and further competition would thereby be encouraged in the brokerage market.

(50) Turning to the retail level, a “straw poll” of high street banks\(^29\) conducted in July 2005 shows that fees to private investors for small trades (<100 shares) range from €5 to €100 for domestic transactions and from €13 to €135 for cross border. The ratio of fees for domestic transactions compared to cross border ranges from 1 to 6 (average 1.8).\(^30\)

\(^{27}\) See FSA policy statement 05/9 at http://www.fsa.gov.uk/pubs/policy/ps05_09.pdf


\(^{29}\) “Survey of Retail prices” Presentation by DG Internal Market to CESAME meeting of 24 October 2005. The survey also looked at medium sized trades (500 shares) and large trades (>1000). http://europa.eu.int/comm/internal_market/financial-markets/docs/cesame/ec-docs/presentation_on_annex_iii_en.pdf

\(^{30}\) At a macro economic greater financial integration has been found to potentially deliver very significant savings as reported to CESAME group: see http://europa.eu.int/comm/internal_market/financial-markets/docs/cesame/ec-docs/20050307-structure-impact-annex1_en.pdf and cf footnote 7
4.3 User and other views on potential competition

Where there has been competition in trading services, users seem to have benefited. In their replies to questionnaires, users were clear in their expectations that more competition in trading is possible and would bring lower trading fees, better service, a wider range of services and, for many, better spreads.

In their replies, banks considered that the difficulty of moving liquidity was the single most important barrier to market entry in trading (88% ranked this criteria as having high or most importance) (see table in Annex 1). However, the underlying causes of this difficulty such as inadequate penetration of virtual order book/smart order routing software, the inability to access to fungible post-trading arrangements and the existence of restrictive vertical arrangements may actually explain why liquidity is apparently sticky. Where these barriers are eliminated (eg US/Canada equity trading examples), so also is the issue.

In their responses banks were divided on the potential for competition in CCP services over the long term, although many saw it as possible in the short term. Where they considered it would be possible, they expected users to benefit.

Some respondents made the point that because the clearing activity is said to be characterised by substantial economies of scale, the most efficient solution would be to have only a single pan-European CCP. However, some infrastructures responding to the UK Competition Commission inquiry into the possible merger of Euronext or Deutsche Boerse with LSE, suggested that this view is shortsighted and that multiple CCPs were possible under appropriate conditions.

User expectations of competition in settlement vary but tend to be less positive than in other areas. To some extent, this may be due to a vision of CSD services which does not separate the responsibility for creating the issue registry from

maintenance/updating. Some observers have suggested that the latter service might be purely transactional and could be provided by a large number of providers.

5 Barriers to competition

5.1 Barriers to competition in trading services

(56) Exchanges may be able to protect their business from competition directly (e.g. by predatory fee reductions or other behaviour) or indirectly for example by making access to clearing and settlement arrangements difficult or impossible for a competitor.

(57) The following issues which make new entry to trading more difficult or even impossible have been noted. Feedback from the industry would be appreciated concerning both the causes and possible ways forward:

5.1.1 Concentration rules and equivalent measures

(58) In some countries a “concentration rule” requires all trades relating to certain equities to be executed on a designated platform, usually the incumbent exchange. Following the implementation of MiFID, such concentration obligations should disappear, which may facilitate competition from alternative trading platforms and internalisers.

(59) Even where concentration rules do not exist, there are examples of off-exchange trades being required to be reported to the incumbent exchange on the stated grounds of improved price discovery. Fees charged for reporting sometimes represent a significant part of the on-exchange fee. This practice increases the cost of trading on the rival platform and provides revenue from trading carried elsewhere for an exchange which has not provided any trading service. A derogation system may be applicable in certain cases. However, if derogations are granted only by the exchange to which reporting is normally made, some doubts may arise as to the independence and objectivity of such a system – to the extent that some potential candidates may be dissuaded from applying on principle. Such rules should also disappear under MiFID. However, it would still be useful to obtain feedback on this matter from the market.

(60) Reporting of off-exchange trades in turn is incorporated in information provided to other customers (Reuters etc). After the implementation of MiFID, there could be increased competition in information services. Accounting transparency (for example if exchanges were required to clearly separate the accounting of their different business lines (see also section 5.4.3)) would also help to promote competition.

(61) Primary dealers (those who purchase securities directly from their issuers) typically also act as intermediaries in the secondary market (where securities are traded between investors). In some government bond markets, dealers are required to meet quantitative and qualitative criteria relating to their activity in the secondary market in order to retain their status as primary dealers. Although harmonised reporting data for secondary market activity has been agreed on by Member States and market participants32, for this purpose some Member States only count transaction volumes.

32 The National Treasuries of the euro area have agreed on a harmonized format for primary dealers to report on their activity in the euro-denominated government securities market from January 2006 onwards. The harmonized reporting format has been developed by the EFC Sub-Committee on EU Government Bonds and
which have been executed on a designated trading platform (typically the national incumbent). This type of arrangement appears discriminatory, since it works to the disadvantage of rival platforms trying to attract the business of such intermediaries.

5.1.2 Control over clearing and settlement services

(62) To compete with an existing provider an entrant, at a minimum, would have to offer competitive trading conditions (membership fees, trading fees) and a clearing and settlement process that is at least as cost-effective as the one offered by the arrangements put in place or offered directly by the incumbent stock exchange. Where exchanges control the services offered by post-trading institutions, this may limit the potential for competition to develop in trading and post-trading.

(63) If a CCP can operate across cash and derivative markets or markets for other asset classes it can greatly reduce the costs of collateral and margin calls for users. Similarly if a CCP can offset liabilities arising from trades executed on more than one platform, direct and indirect user costs can be reduced. To do this a CCP has to be able to offer fungibility i.e. that the positions of a single member on each platform can be offset against each other to produce a single collateral position and a single position for settlement. If they cannot, the attractiveness of the alternative platform(s) diminishes.

(64) In the case of CCPs which are vertically integrated with the exchange, there may be no incentive to provide access. Even in the absence of vertical integration, though, a regulated exchange which chooses the CCP and has a contractual relationship with it may restrict the ability of the CCP to offer full or partial fungibility to other trading platforms, particularly those which may compete with the incumbent exchange.

(65) Equal access to CCPs would certainly facilitate more competition between trading platforms. To avoid foreclosure of trading markets, CCPs also need to offer fungibility.

(66) The following types of clauses and situations in contractual relationships between exchanges and CCPs have been noted which may effectively foreclose competition in trading even in the absence of a vertical silo:

- Clauses which require the CCP to request or obtain the agreement of the incumbent exchange before offering CCP services including settlement and margin netting to another trading platform, in particular where this concerns a competitor. This is despite the fact that, on the basis of information provided, exchanges do not appear to incur an appreciable operational risk if the CCP provides fungibility to users of another platform trading in the same securities. Indeed several successful examples exist. Since the role of a CCP is to manage risk, it might seem more appropriate that risk management decisions such as offering fungibility would be within the domain of the CCP and not of the exchange;

- Provisions by which the CCP accepts to refrain from freely deciding on its business strategy by requiring the CCP to obtain permission from the incumbent exchange.
exchange before offering its services to another trading platform, even if the platform in question is not a direct competitor. This could result in the CCP being the exclusive provider to one single exchange but having no possibility to use the economies of scope and scale of its business model to improve its service to users;

- Situations where the exchange chairs the IT development committee or equivalent or has decision making power over a CCP’s product development plan. Whilst establishing a service level agreement and consultation between a customer and provider concerning IT development priorities would not in principle create a barrier to competition, this may be the case where a service provider is in effect limited in its capacity to respond to market driven developments which would benefit its overall business and its users by the decision making power of a single customer.

(67) The ultimate result of such restrictions could be a series of agreements between the exchange and the CCP which prevented competition and extended beyond what is objectively justified. The result would be less efficient service to users, fewer economies of scale, less innovation and less transparency. Removal of these restrictions would create more favourable conditions for competition as well as for potential consolidation. It is perhaps the case that as these conditions are often not made known to users, they are unable to protect themselves against a situation which is so unfavourable to them (see further below).

(68) It is sometimes argued by exchanges that the restrictions they impose on access to CCPs or in respect of settlement are required of them by regulators with the goal of ensuring that trades can be completed in a secure and safe way. It might be useful to discuss with regulators whether such restrictions are necessary in all respects. For example, in a paper based age, it may have been true that the fewer the intermediaries, the less the risk of error. However, additional choice is usually a feature of a higher technology environment. It may therefore not be necessary in today’s technological environment to be as prescriptive about the post-trading arrangements.

5.1.3 Fee related issues

(69) In competitive markets the pricing of services plays an important role in the selection of a service provider. Lack of price sensitivity may be an indicator either of user inability to choose, inability to correctly assess and respond to the price being charged, and/or user ability to pass on charges irrespective of their relationship with an economic reality.

(70) In replies to questionnaires, some banks and brokers have expressed dissatisfaction with fee schedules for trading services. Fee schedules should allow a user to evaluate the cost of trading ex-ante. It has been suggested that this is difficult or impossible where the fee schedule is based on criteria which are only known ex-post (e.g. type of trade) and/or where the trading execution service cost is bundled with other complementary services. It has been reported that in certain cases the actual fee to be paid cannot be derived from the fee schedule as it depends on a complex series of criteria including the user’s trading profile. Without such transparency an investor may not be able to make a sufficiently informed decision on where to trade.
Pricing transparency in trading is necessary to enable trading intermediaries to be able to price their own services to their customers correctly. Traders rightly expect to be able reconcile their actual trading to their billed executions. Banks also need this information to make their trading choices (size, number of trades, venues…).

5.1.4 Broker trading technology

In the US, where best execution rules require brokers to compare conditions on different trading platforms, most banks have implemented tools to facilitate comparative trading decisions, such as smart order routing. It seems that less stringent requirements in the EU may be one reason why few European banks have made this investment. Such tools would facilitate market entry to trading services and contribute to more sustainable competition between trading platforms. Users noted that this is a time- and resource-intensive process which may delay the actual execution of an order. As a result, traders tend to send orders to the dominant trading infrastructure with the largest liquidity without checking other trading venues as, in general, such a course of action was, prior to MiFID, considered consistent with best execution.

As many users noted in their responses, what is lacking is consolidated pre- and post-trade information which would allow a trader at any point of time to check on the same trading screen prices, transaction costs (explicit and implicit) and market conditions in all markets in which a specific security is traded. If such information were available, a trader would simply send an order to the trading platform which meets the closest her/his requirements.

At the present time, such consolidated information, i.e., a consolidated order book and a consolidated ticker tape, is not always available and, in the cases of a security traded on different exchanges, a trader would have to get the relevant information from different trading screens, undertake a comparison of the terms of trade offered by the various trading infrastructures and then make a decision as to where to send a specific order.

In addition to the changes that will be introduced by MiFID, input would be welcome on any further actions which would promote the development and implementation of competition enhancing trading tools.

5.2 Barriers to competition in clearing services

Competition may be prevented either by the behaviour of exchanges or of CCPs themselves. The following observations which make competition in clearing services more difficult or even impossible have been noted. Feedback from the industry would be appreciated concerning both the causes and possible ways forward.

5.2.1 Limitations of the model of competition for the market

Cases where the incumbent exchange puts an exclusive service contract out to tender might be considered as an example of competition for the CCP market. For example, following the LCH-Clearnet merger, the LSE tendered for the supply of clearing services in 2003, in a process that led to the reappointment of the incumbent. See LSE press release of 25 November 2003.
where exchanges are near-monopolies, they are likely to seek to profit maximise at the trading level. The result of such competition may simply be a shifting of rents from clearing to trading. Moreover, if there were actually competition at the trading level, it is not obvious which of the competing exchanges could or should organize competition for clearing services. Competition for the market would then need to be organized differently. Ideas on how this might work in practice would be welcome.

5.2.2 Mutual interest in arrangements which foreclose competition

When competition for the market is organized or awarded by the incumbent exchange it may, as already argued in section 5.1.2, impose conditions on the CCP which limit its scope to develop its business freely. By accepting these restrictions the CCP appears to cooperate with the exchange and acquiesce in a situation which limits competition in CCP services as well as in trading.

5.2.3 CCPs in vertical silos

As far as we can see, under current arrangements CCPs in vertical silos would not be subject to competition either for, or in, their home market. Consequently competition appears to be foreclosed in this case.

5.2.4 CCP interoperability

Competition both in and for the market could be encouraged through interoperability. Competition in the market has usually been interpreted as meaning that a single exchange would allow several CCPs to be its service providers. The current example of two infrastructures providing CCP services to MTS is an interesting example, especially since it appears that this has been developed at quite a low cost to users and infrastructure. However, other ways of organizing competition in the market, such as allowing additional CCPs to access the incumbent CCP on fair terms in order to act as a clearing agent, are also possible and should not be disregarded prematurely.

It is not certain that interoperability can produce satisfactory results unless all providers agree to participate. Replies to the questionnaires suggest that this is, however, unlikely to happen spontaneously. If only certain CCPs were to provide fungible access, an asymmetry would result. Input would be welcome on the conditions required for interoperability to be possible.

Interoperability is facilitated where industry standards are widely available and implemented by all infrastructures. By electing to delay the development and implementation of industry standards, exchanges and CCPs make it more difficult for new service providers to compete for CCP services. As CCPs are a relatively recent development, they would be expected to be at the forefront of initiatives to remove “Giovannini barrier” to encourage the development of competition in trading as

34 The Second Giovannini report (2003) specifies: Diversity of IT platforms/interfaces: National differences in the information technology and interfaces used by clearing and settlement providers should be eliminated via an EU-wide protocol.

CESAME group: Operational Conclusions – following 24 October 2005 meeting indicates: “Time Target* within 2 years [October 2006]”
well as to allow for interoperability in clearing services, rather than accepting significant delays in implementation.

5.3 Barriers to competition in settlement services
(83) Competition may be prevented either by the behaviour of CCPs or of CSDs.

(84) The following observations which make competition in settlement services more difficult or even impossible have been noted. Feedback from the industry would be appreciated concerning both the causes and possible ways forward.

5.3.1 Interoperability issues
(85) Similarly to the case for CCPs, a lack of standards is a barrier to the development of competition in the settlement arena. In particular, replies to questionnaires highlighted that whereas remote access to trading platforms is quite common, this is not the case for membership of CSDs. The development and greater use of industry standards (harmonisation of corporate actions, harmonisation of clearing and settlement cycles….) would facilitate the ability of global custodians to be direct settlement members on a remote basis.

5.3.2 Price sensitivity and transparency
(86) Fees for CSD settlement services have been reported as lacking transparency and not demonstrating a relationship with costs. This makes competition between intermediaries more difficult to develop as it tends to favour local settlement agents.

5.3.3 Possible foreclosure of agency settlement and custody
(87) Some banks have a strong belief in the advantages of Euroclear’s Single Settlement Engine (SSE). They claim that this might mean that settlement agency would become less important in the future, with positive effects on cross-border costs.

(88) On the other hand, certain (I)CSDs acting as intermediaries, have obtained a direct feed from certain CCPs while other intermediaries may not be able to do so. A direct feed means that an investor can specify that a trade which needs to be settled after CCP clearing can be routed either to the CSD or to the intermediary concerned. This enables the intermediary to capture trades which it may be able to internalise. Whilst this offers a service to the investor, it appears to give an intermediary with a direct feed an advantage over other settlement agents.

(89) Some CCPs have concluded contracts according to which the CCP will exclusively provide direct feed to only one settlement agent. There do not appear to be compelling

f) implementation of the standard protocol all (European) industry participants, e.g. banks, (I)CSDs, CCPs, central banks, intermediaries etc.;probably with monitoring by ISSA to be coordinated starting 3/06 – 3/08 by all EU market infrastructures; 3-/06 – 3/11 for all cross-border participants"
reasons for preventing other settlement agents to have access to the same level of service. Such arrangements would benefit from further clarification taking into account the specificities of the institutions involved and of the post-trading industry in general.

5.4 Other issues

5.4.1 Lack of user incentives

As the main users of securities infrastructures, banks are vocal in calling for lower costs. Nevertheless, it is not clear that they currently are in a position to take action to achieve this (for example, if they are able to pass costs on to final investors, or if they have difficulty establishing the level of these costs in the first place). While they might have the means and incentives to exert influence collectively, this may not be so individually.

One important issue that users face is that they are captive customers of infrastructures that they no longer (in most cases) own. Even where they do have a voice on the Board of infrastructure service providers, they may be unable effectively to influence the direction of commercial policy due to free-rider problems and limitations related to their fiduciary duty. The same applies when specific provisions have been made for user representation, which may not always be satisfactory. In this context, increased competition appears to be the most appropriate way to solve these problems.

5.4.2 User ownership of clearing and settlement

Some market participants claim that CCPs and CSDs should be user owned utilities and that for-profit ownership raises costs. Clearly, this problem only arises if one takes as given that these structures are natural monopolies as opposed to mere “incumbent monopolies”. Encouraging the development of more competition would seem a more appropriate way of addressing the root issue than imposing a specific corporate structure.

In addition, although user ownership may have certain advantages, it also has certain limits or raises issues which merit caution. Ensuring a correct balance of user interests is frequently an issue. In general, the costs associated with mutual status, including potentially inefficient decision making, difficulty in incentivising management, and a lack of incentive to innovate, would also need to be given full weight alongside any possible benefits.

Some authors have argued that a mutually owned CCP might not face the right incentives to maximize trading volume, being in effect too risk-averse. A for-profit status would overcome this problem.

5.4.3 Accounting transparency

A company which is dominant in a given market may attempt to acquire market power in an adjacent contestable market in ways which could contravene EU competition

law. Accounting transparency is a prerequisite to ensure this does not happen. Under present circumstances, the lack of adequate analytical reporting means that there may be uncertainty about whether competition rules are respected or not. This issue will become even more important with MIFID implementation.

(96) The need for accounting separation potentially concerns all sectors of the industry whether in trading, clearing or settlement. Market participants are invited to comment on the list of areas where accounting transparency should be implemented and propose how this could be achieved for the long term. A possibly non-exhaustive list includes:

- for trading: information services and trade reporting.
- for settlement: custody and banking services including asset servicing.
- and, for vertically integrated structures, accounting separation between trading and post trading.

5.4.4 Consolidation

(97) The economic characteristics of securities trading and post trading suggest that consolidation is likely. Some users have called for greater consolidation, particularly in CCP services.

(98) The Commission has no a-priori position about ownership or final market structure. The aim of the Commission does, however, include creating the competitive conditions where there is a business case to consolidate if it is efficient from a welfare perspective.

(99) It is sometimes suggested that the value of certain infrastructure assets includes expectations of long-term monopoly profits and that this insulates such assets from acquisition, thereby impeding desirable forms of industry consolidation. Without taking a view on this question, the Commission services believe that the best way to proceed is by making markets contestable so that the value of assets readjusts to exclude the present value of future rents. Whether or how consolidation then takes place can then be left up to the market. Of course, the control of such consolidation will be subject to the relevant merger control regulations.

6 Consultation on possible ways forward

(100) The preceding overview raises complex and important shortcomings to a normal competitive process in securities trading, and post trading. If competition is to be allowed to contribute to facilitating market integration it needs to be allowed to develop at each level. In general, conditions such as lack of transparency in governance, lack of transparency in pricing and billing, disproportionate restrictions imposed on service providers, and bundling of services between activities (vertically) and within activities (horizontally) are not conducive to competition.

(101) Issues affecting the competitiveness of markets can be addressed by a wide range of stakeholders. Some of the issues may be too complex and diverse to be resolved by any single stakeholder. Each stakeholder has a number of different possible means of
intervention and each should use the tools at its disposal to address identified barriers to competition.

(102) Market participants are invited to present concrete and realistic proposals for solutions. The range of possible actions as a follow-up to this issues paper might include:

- Proposals from market participants to alter current behaviour or conditions with clear time line commitments;
- Actions from EU and/or national regulators to establish a pro-competitive environment ex-ante;
- Further proposals from ECB/CESR where supervisors can promote transparency and competition through standards;
- Opening of formal procedures at EU or national level in cases of infringements of competition rules where appropriate.

(103) The specific issues with which DG Competition is concerned are summarized in the following table, together with some suggestions as to who might address them and how. DG Competition would welcome all comments and further suggestions in respect of each of these points, or any other issue raised in this paper.

<table>
<thead>
<tr>
<th>Concern</th>
<th>Possible reactions</th>
</tr>
</thead>
</table>
| Restrictive clauses in agreements between exchanges and CCPs relating to the freedom of the latter to provide services to competitors | • Assurance from the actors concerned that such clauses have been or will rapidly be eliminated.  
• Relevant measures to avoid the risk of participants in closed systems free-riding on open ones.  
• Market participants may wish to draw DG Competition’s attention (or the attention of a national competition authority) to failures to provide non-discriminatory access. |
| Idem between CCPs and providers of agency settlement services             | Idem.                                                                              |
| Opacity of arrangements and agreements throughout the industry          | • Industry could reflect on its information requirements to allow greater competition and propose solutions (codes of conduct, regulatory constraints…) |
| Lack of transparency in infrastructure pricing                           | • Service providers might agree guidelines with users on price transparency.  
• User groups or other bodies might propose to publish regular comprehensive surveys of fees for investors  
• Possible regulatory solution |
<p>| Lack of accounting unbundling within vertically integrated service providers leading to difficulty in detecting abusive cross- | Market or regulatory solution.                                                    |</p>
<table>
<thead>
<tr>
<th><strong>subsides</strong></th>
<th><strong>The same issue also in non vertically integrated structures, as it concerns information services and trade reporting fees</strong></th>
<th><strong>Market or regulatory solution.</strong></th>
</tr>
</thead>
</table>
| **Elimination of concentration rules and other measures with equivalent effect** | • The measures in question, certainly where they are private in origin, should be eliminated without awaiting the entry into force of MiFID.  
• Market participants may wish to draw DG Competition’s attention to other instances of similar rules and to failure to remove them going forward. |  |
| **State measures prescribing specific platforms in order to qualify for primary dealer status in government bonds** | **Elimination of these measures.** |  |
| **Possible market failure in provision of technology interfaces allowing integrated trading on competing market platforms** | **Views on this are sought, including on how such a market failure might be addressed in addition to the measures foreseen under MiFID.** |  |
| **Lack of CCP and CSD interoperability undermining access** | **Market or regulatory action.** |  |
| **Intransparent bundling of execution and other services by brokers** | **Under MiFID, the Commission is of the view that such practices should be appropriately reformed.** |  |

Responses to this consultation should be sent by e-mail to COMP-EU-SECURITIES@ec.europa.eu. They will be published on DG Competition web site in full unless confidentiality is requested, in which case a non-confidential version should be provided. In order to be most useful, the Commission would appreciate receiving responses by close of business on Friday 30th June 2006.
Annex 1 - User expectations of the impact of more competition in trading

[Diagram showing user expectations of various impacts of more competition in trading, including lower trading costs, lower bid-ask spreads, lower C+S costs, lower market making costs, better quality of service, and wider range of services. Each category is represented by a bar chart indicating the percentage of respondents who expect each outcome, with options for N/A, No, and Yes.]
Annex 2 - Methodology for pro forma calculations of trading fees.

Construction of user profiles
The “typical user” - user A - is constructed by taking the means of the number of and value of trades reported by users of the various European stock exchanges. First we calculated the mean values for each European stock exchange individually; then we calculated the mean of these means across the exchanges to get a single set of “typical” European user data. These constructed “typical values” seem robust: the same calculations, but including only the users that were active on several exchanges, produced values that varied little from the originals.

We created three variants to the “typical user”, labelled B, C and D, and summarised below. The variants differ from the “typical user” in the number of trades made and the average trade size. This implies also that the total value traded will be different.

- User A: Typical user
- User B: large volume of low value trades
- User C: large volume of high value trades
- User D: small volume of low value trades

Users C and D represent the extremes of high and low users, respectively; User B is a hybrid of these two. User C (high user) is set such that it makes twice as many trades as the “typical user” and its average trade size is twice as large. Compared to the “typical user”, User D (low user) is set such that it makes half as many trades and its average trade size is half the size. Thus, the total value of trades increases progressively fourfold, from “low user” to “typical user” to “high user”. User B makes the number of trades made by User C, but User B’s average trade size is the same as User D’s.

Comparing the overall charges faced by User B to those faced by Users C and D illustrates the effects that, respectively, trade volume and trade size have on costs.

<table>
<thead>
<tr>
<th></th>
<th>Typical user (User A)</th>
<th>Many trades but small (User B)</th>
<th>Many trades and big (User C)</th>
<th>Few trades and small (User D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of trades</td>
<td>959,802</td>
<td>1,919,604</td>
<td>1,919,604</td>
<td>479,901</td>
</tr>
<tr>
<td>Average trade size (€)</td>
<td>45,810</td>
<td>22,905</td>
<td>91,619</td>
<td>22,905</td>
</tr>
<tr>
<td>Value of transactions (€)</td>
<td>43,968,222,829</td>
<td>43,968,222,829</td>
<td>175,872,891,318</td>
<td>10,992,055,707</td>
</tr>
</tbody>
</table>

Source: DG COMP calculations based on submissions by users of European stock exchanges

Calculation of per transaction costs
Our initial assumption regarding users’ status is that users are all existing members of the trading, clearing and settlement platforms. Thus no one-off fees, for joining or installation, are charged in our calculations.
We have assumed that all transactions are of the simplest form available. Complex arrangements, such as iceberg orders or netting, are excluded. We also exclude costs incurred from amending or cancelling transactions, and costs of placing orders that are not ultimately executed.

Potentially, users face both fixed and variable costs in making transactions. We counted the fixed costs as membership fees, connection fees and data feed costs. Variable costs are the trading (or clearing or settlement) fees, which may include an order placement fee at the trading (or clearing or settlement) platform. We do not include costs for other services (such as maintenance, testing, reporting and real-time news). In most cases, we have not been able to establish how much, if any, collateral users must post at clearing and settlement infrastructures. Similarly, we have not always been able to identify the costs of the IT link for users to the clearing and settlement infrastructures.

We make calculations for the total cost of trading faced by the user, based on the number of trades and average trade size of that particular user profile (typical, high or low). This step is necessary to allow the incorporation of fee-discounts into the calculation since such discounts, where they exist, are most commonly based on the number of transactions made by the user.

The average cost per trade is found by dividing the total cost of trading by the number of trades made. We make the calculations at each stage (trading, clearing, settlement) separately, and then sum the three values to obtain the overall per-transaction cost of trading.