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TRÉSOR-ECONOMICS

Implementation of the Markets in Financial Instruments Directive: what is at stake?

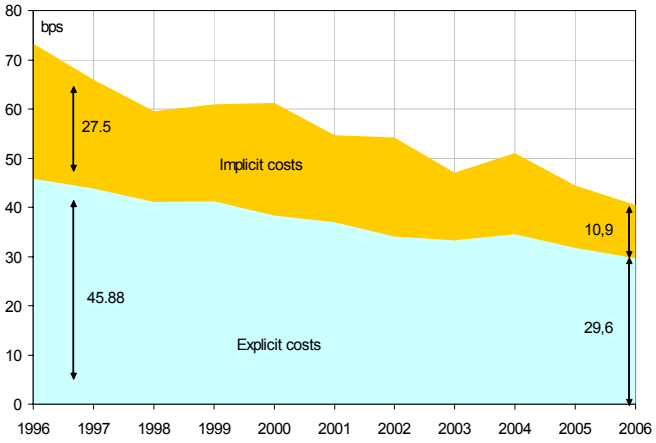
- The Markets in Financial Instruments Directive (the MiFID) came into force on 1 November 2007. Under this directive, States can no longer require investors' orders to be concentrated on the regulated exchanges only. As a result of this rule, applied with variable rigour from one European country to another, the great majority of orders have hitherto been routed through regulated markets, and in particular Euronext Paris in the case of equities eligible for trading on the French stock exchange.

- In future, order flows will be broken up *de facto*, given that investors' orders can now be executed on either regulated markets or new electronic systems (multi-lateral trading facilities-MTFs), or through a financial intermediary. The latter will serve as counterparty to the transaction by playing the role of systematic internaliser, like the market makers on the LSE and Nasdaq, except that they operate outside a regulated market or a MTF. It is reckoned that in France more than 10% of CAC 40 equity trading volumes were already being traded outside the Euronext trading system at the time the directive came into force, and could therefore very rapidly be diverted towards these alternative trading platforms.

- The spread of competition between trading centres to Europe as a whole is part of a process going back to the 1970s, one major consequence being lower transaction costs. The stakes are significant, since the hoped-for fall in transactions costs will have a direct impact on the cost of capital-on the order of 10% according to some experts. This in turn will ultimately support economic growth by encouraging investment.

- The fragmentation of order flows could also squeeze market liquidity, which could raise costs, on the contrary. However, past observation suggests this second effect is of lesser importance. The impact remains difficult to assess, since it will probably differ depending on the type of investor or the security's liquidity.

Global transaction cost trends worlwide



Source: Elkins-McSherry.

DGTPE
DIRECTION GÉNÉRALE DU TRÉSOR
ET DE LA POLITIQUE ÉCONOMIQUE

1. Deregulation and technological progress have led to increased competition between stock exchanges since the 1970s

1.1 Increased competition, ...

Financial market deregulation in the United States began in 1975 with the abolition of fixed commissions on stock market trades, whereas the process set in later in Europe. London introduced a similar measure in 1986 (in what came to be known as the "Big Bang"), and was followed by the *Société des Bourses Françaises* in 1989. For Europe as a whole, the 1993 European investment services directive definitively introduced competition into trading activities by leaving the workings of the markets to the professionals. Changes in the traditional securities trading businesses, and to some extent the opening up of foreign markets, have fostered competition. Among these changes were:

- the dematerialisation of paper securities (in France this was set in train in the late-1970s and took effect in 1984) has considerably diminished the role of the institutions that used to control the chain of securities trading operations, from listing to settlement/delivery;
- the economic environment, which has allowed investors and issuers to gain access to foreign markets and to arbitrate between markets. With the abolition of exchange and price controls in the 1970s and 1980s investors, and especially institutional investors, have been able to internationalise their portfolios, while in Europe the euro has made it easier to compare firms of different nationalities. These two factors have had a positive impact on competition between exchanges that formerly catered primarily to their respective national markets.

1.2 ... as a source of technological progress ...

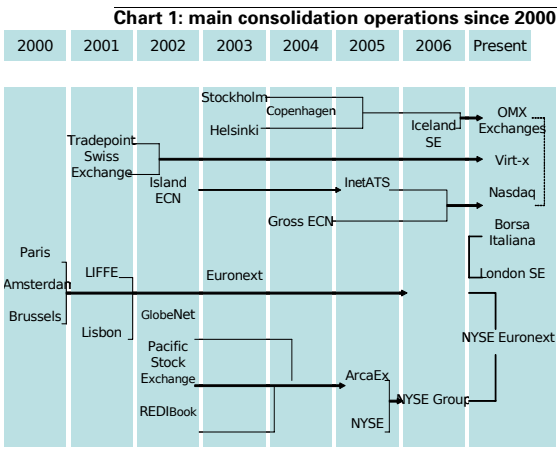
The advent of competition sparked a wave of innovation in the sector, along with the emergence of actors deploying new technologies. Market operators sought to streamline their operations, most of them switching to less expensive electronic systems. This in turn brought hefty reductions in personnel costs and increased order processing capacity, while allowing operators to decentralise their transactions by doing away with the need for a physical presence (the Paris Bourse closed in 1998 following migration by the MATIF and the MONEP to electronic systems)[1].

Today, the United States is practically alone in having retained trading pits (on the *New York Stock Exchange*, the CBOE, and the CME). The development of electronic systems for securities trading alone has also led to the arrival of newcomers such as Electronic Communication Networks (ECNs), which have further bolstered competition on the organised markets.

1.3 ... has led market operators to open up their capital

To secure the financing needed to develop their trading systems from private agents[2], market operators have modified the structure of their capital, initially by a process of "demutualisation" by opening up their capital, previously held by their own partners. Next, some of them changed their legal status to become commercial undertakings and listed on their own markets, enabling them to further diversify the structure of their share ownership.

Chart 1: main consolidation operations since 2000



The main European bourses (*Euronext*, *Deutsche Börse* and the LSE) were listed in 2001. Elsewhere, the process continued with NYSE's initial public offering (IPO) in March 2006, and with plans to list *Borsa Italiana*, as well as *Bolsas y Mercados Españoles* (BME). At the end of 2005, OICV-IOSCO[3] had 16 listed bourses among its members (holding companies of stock exchange groups, spot markets and derivatives markets combined).

A stock market listing also facilitates mergers and alliances between bourses (see chart 1). There has been a spate of such operations in the past two years and, coming after a pan-European phase (involving Euronext and OMX), tie-ups are now taking place between American and European markets (e.g. NYSE-Euronext, Nasdaq-OMX), with the result that now Middle Eastern investors and bourses are taking stakes in them (as in the case of Borse Dubai's and the Qatar Fund's investments in the LSE).

(1) In France, the CAC was launched in 1986 along the lines of Canada's CATS introduced in the 1970s. Generally speaking, electronic systems were mainly introduced in the mid-1990s (1995 for Peru and India, 1996 for Mexico, South Africa, Luxemburg, Malta and Switzerland, 1997 for Germany, Brazil and Israel, 1998 for Hungary, 1999 for Austria and Tokyo, etc.).

(2) The *London Stock Exchange* and *Deutsche Börse* each spent more than 100 million dollars to implement their electronic systems, respectively *Sets and Xetra* (see Domowitz and Steil, 1999).

(3) OICV-IOSCO, 2006: "Regulatory issues arising from exchange evolution", *Consultation report*. The International Organization of Securities Commissions (OICV-IOSCO) brings together the market regulators of 27 countries.

Box 1: **comparisons with the US regulatory system**

Regulation NMS came into force in the United States at around the same time as MiFID in Europe. Among others, the American principle of best execution is inspired by the one (the Trade Through Rule) progressively introduced on the NYSE in 1981 and then on Nasdaq in 1997 (the Order Handling Rule). The key criterion is the transaction price, which is better suited to the needs of small investors.

As a result RegNMS is liable to incite institutional investors to handle their large orders within dedicated private trading systems, e.g. seeking out dark pools of liquidity. By comparison Europe's "best execution" incorporates a wider range of transaction components such as speed of execution, volume, etc.

Moreover, by comparison with the system put in place in the United States, the European regulations ought to limit the growth of what the Americans call "opaque" private trading systems (e.g. dark pools of liquidity), which are liable to impair the liquidity of regulated markets and create two classes of investors. In particular, the obligation of pre-trade transparency appears to be more restrictive for the European MTFs, whereas the corresponding rule in the US simply obliges an electronic system to publish a price if it handles more than 5% of the total trading volume in a security (Liquidnet has even obtained an exemption from this rule).

In theory, the opacity of these new systems distorts the price formation process, since it no longer incorporates data relating to the transactions captured by these systems. The introduction of trading algorithms that permanently scan several trading platforms can limit the effects of this fragmentation, but this strategy is not available to all investors.

2. These market developments have significantly lowered the cost of capital for firms over the past decade

2.1 Both components of transaction costs ...

The issues underlying changes in the financial markets transcend the financial industry alone, insofar as any improvement in the price formation mechanism or strengthening of competition in this sector will lead to lower transaction costs, thereby reducing the cost of capital to business.

We distinguish two types of transaction cost:

- **direct or explicit costs**, which refer to costs directly borne by the user on the occasion of a transaction on a listed security. These are particularly dependent on the way the markets are organised, as well as on tax treatment and on competition among intermediaries, subject to more or less restrictive regulation. In Paris, these costs can be identified by consulting the transaction note sent out after each transaction on the market, which states commissions, VAT and the stock exchange tax;
- **indirect costs, associated with the conditions in which the order is executed. These costs, which are called "implicit"**, are less easy to assess and reflect the market's "liquidity"[4]. In practice, at least two components need to be taken into account, namely the difference between the sale price of an asset and its purchase price (its "bid-offer" spread, which remunerates and compensates the order's counterparty for providing the liquidity), and the impact of the transaction on the price (the larger the order and the thinner the market, the greater the impact will be)[5].

2.2 ... have fallen since the 1970s ...

Transaction costs are reckoned to have fallen by nearly 40% on average, worldwide, since 1996, according to data gathered by Elkins-McSherry, a data analytics firm (see box 2). The chief cause of declining costs is claimed to be the adoption of automated trading systems, which suggests that costs probably began falling more or less steadily from the end of the 1970s onwards[6]. That is because, according to the study, average transaction costs in markets based on an electronic system are significantly lower than in their non-automated counterparts.

These developments are having a significant and positive impact on economic growth. Given the elasticity of the cost of capital, a 40% drop in transaction costs ought to lead to a gain of nearly 7% in firms' cost of capital[7]. **In the case of France only, this decline, equivalent to around 60 basis points, would boost GDP growth by 0.2 percentage point over 5 years, according to the DGTPE's model (*MESANGE*).**

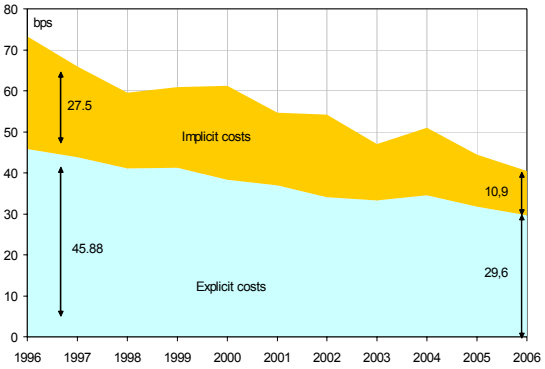
(4) For a more detailed presentation of the notion of market liquidity, see Bervas (2006): "La liquidité de marché et sa prise en compte dans la gestion du risque" (Accounting for market liquidity in risk management), *Revue de la Stabilité Financière no.8, 67-84.*

(5) Ideally, one should also take the time factor into account (i.e. the speed of execution of an order), but the best measurements currently available include only these two factors.

(6) The data supplied by Elkins-McSherry do not extend beyond 1996.

(7) Domowitz & Steil (2002): "Securities trading", extract from "Technological innovation and economic performance", Princeton University Press, 314-326.

Chart 2: global transaction cost trends worldwide



Source: Elkins-McSherry.

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The observed decline is reckoned to be greater for implicit costs (–55%) than for expenses and commissions (–30%). In the recent period, implicit costs are thus now thought to represent no more than a quarter of the total transaction cost. The steady fall in commissions and taxes can be explained fairly easily by the combination of technological improvements and growing competition among intermediaries. Trends in implicit costs are harder to apprehend, on the other hand.

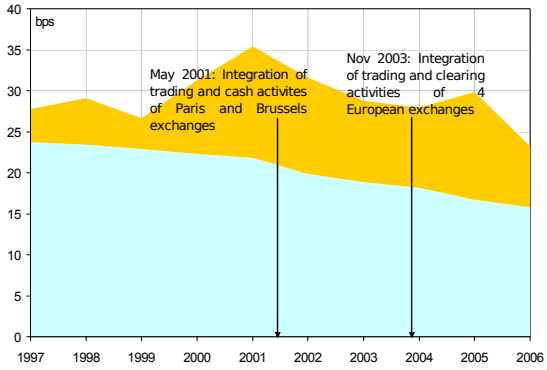
2.3 ... while the behaviour of the component of these costs reflecting market liquidity is more erratic

The implicit component, represented by market impact, has fluctuated more erratically and bourses continue to have greater difficulty mastering it because it is correlated with price volatility and market activity. As a result, a sharp deterioration in implicit costs was observed in 2000 and 2001 due to the exceptionally high volatility of that period, which made it difficult to execute orders at best price. This phenomenon was reinforced by the wave of massive selling at that time, sales being empirically costlier than purchases[9].

After the sharp rise of 2000 and 2001, the level of implicit costs on Euronext progressively reverted to its level of the latter half of the 1990s. One factor holding back this decline may have been due to the tick size applicable on Euronext, which distorts the measurement of implicit costs used by Elkins-McSherry. Whereas the American exchanges have all switched to the decimal method, Euronext, like Germany, has retained a grid of ticks based on equity prices, whereby the tick size increases as the share price rises. Only securities with a price equal to or less than €50 have a minimum price variation of €0.01[10].

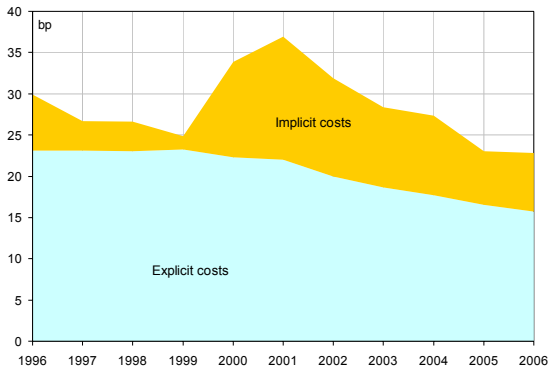
However, the decline in implicit costs in France has been more pronounced since 2001, even though in 2005 Paris had still not recovered the exceptionally low pre-2000 levels. This finding is consistent with that of Pagano and Padilla (2005)[11], which shows that the bid-offer spread for CAC 40 securities has fallen by around 40% since the integration of bourses within the Euronext system. This effect, it is argued, stems from improved market liquidity thanks to a larger pool of securities and the growth in cross-border transactions, benefiting the most actively traded shares on the Paris market.

Chart 3: transaction costs on Euronext and integration phases



NB: Costs for Euronext as a whole correspond to the average of costs for each exchange weighted for market capitalisation on 31 December of each year.

Chart 4: trends in transaction costs on the Paris Bourse



Source: Elkins-McSherry.

(8) Domowitz & Steil (2002): "Securities trading", extract from "Technological innovation and economic performance", Princeton University Press, 314-326.

(9) The reasons for this phenomenon have not been identified. At best we can supply an explanation according to which investors unload their securities in a bear market and are less concerned by the way in which the transaction takes place than when buying.

(10) Since 2 January 1999, the tick, expressed in euros, for equity and equivalent securities has been €0.01 up to €50, €0.05 from €50 and up to €100, €0.10 from €100 to €500, and €0.5 above €500.

(11) Pagano & Padilla (2005): "Efficiency gains from the integration of exchanges: lessons from the Euronext natural experiment", *Report for Euronext*, LECG.

Box 2: **Elkins-McSherry data**

The annual Global Trading Cost Analysis study performed by the American data analytics firm Elkins-McSherry and published by Institutional Investor magazine, provides estimations of equity transaction costs.

These data include direct costs and a portion of indirect costs, referred to as "market impact" costs, which include half of the bid-offer spread and a measurement of the average price gap beyond the best limit price (calculated as a function of the daily observed difference between the average price of a traded block and the average market price weighted by volume). The data are drawn from institutional investors operating on 208 bourses in 42 countries.

The Elkins-McSherry data need to be treated with caution since they depend on the method of collection and the nature of the data, as well as on the calculation of transaction costs. The transactions comprising the database are representative of institutional investors only, which tends to overestimate the market impact (which is high for these investors, given that they usually handle large orders) and to underestimate explicit costs (commissions for these investors being lower, *a priori,* due to their bargaining power).

A second limitation lies in the presentation of transaction costs, which are averaged for each country (and not for each bourse, with no distinction made between transactions on regulated markets and OTC transactions), and for all listed securities (with no distinction between small and large caps). It is therefore difficult to ascribe a transaction cost to a specific bourse, especially in countries with several trading platforms, such as the United Kingdom, Germany or the United States.

3. The Markets in Financial Instruments Directive (MiFID), implemented in November 2007, sets regulated markets in competition with other trading channels

3.1 The order concentration rule …

Until the implementation of the Markets in Financial Instruments Directive (known as the MiFID directive) in November 2007, competition in securities trading activities was restricted by the possibility under the Investment Services Directive (ISD 93/22/EEC) for Member States to institute an "order concentration" rule. **Under this rule, all transactions had to be executed on a European regulated market, which in practice usually meant the market of the country concerned.**

Several Member States, including France, Germany, Spain, Italy and Belgium, had adopted a rule of this kind with more or less broad exceptions. In France, the great majority of orders concerning equities listed on Euronext Paris are centralised towards the French Bourse (with a handful of exceptions discussed below). In the United Kingdom, on the other hand, where the rule does not apply, the regulated market faces competition both from banks, which process some of their transactions internally, and from certain electronic platforms (ECNs).

Germany is in an intermediate situation: the order concentration rule applies there, but with a possibility of exemption at the investor's request exclusively. As a result, competition exists in Germany both within the dual system comprising the regulated Deutsche Börse market (in which its Xetra[12] electronic system competes with the Frankfurt Stock Exchange trading floor), between this regulated market and the seven smaller regional exchanges (Düsseldorf, Munich, Hamburg, Hanover, Stuttgart, Berlin and Bremen), and also *via* the possibility of gaining exemption from the order concentration rule (as a result of which 50% of trading volumes are reckoned to take place outside the regulated market).

3.2 … is abolished by the new directive …

MiFID abolishes the order concentration rule and recognises two alternative securities trading methods that now compete with the regulated markets, namely the multilateral trading facilities and "systematic internalisation".

Multilateral Trading Facilities (MTFs) are electronic systems that multilaterally match orders transmitted by buyers and sellers as on most regulated markets.

In the case of "systematic internalisation", the financial intermediary executes trades internally, directly acting as counterparty to orders received from its clients. By continuously offering a purchase and a sale price for certain equities, together with the quantity of shares it is prepared to buy or sell at that price, the bank sells (or buys) the securities whenever one of its clients transmits a buy or sell order.

3.3 … and institutes a global framework to ensure the market's smooth functioning and investors protection

The new regulation lays down rules stipulating obligations in terms of transparency and quality of order execution. These rules draw their inspiration from the ones progressively instituted in the United States, but on the face of things they provide a slightly stricter framework better able to limit the development of what Americans call "dark pools of liquidity" (see box 1). The rules mainly lay down

(12) Xetra accounts for 92 - 97% of trading volumes in equities listed on the DAX and MDAX, see Factbook 2005, *Deutsche Börse AG, 49 p.*

constraints on the intermediary pertaining to quality of execution of orders and transparency of information:

- for the intermediary, **the "best execution" principle** consists in taking all reasonable measures to provide the client with the best possible outcome when executing orders. MiFID introduces a "multicriteria" approach to order execution conditions, spelling out factors that the intermediary or Investment Services Provider (ISP) must take into consideration, namely price, costs, speed of execution, probability of execution and settlement, size, the nature of the order, and any other consideration pertaining to execution of the order[13], to ensure that it offers the best possible outcome;
- **the pre-trade transparency obligations** require regulated markets and MTFs to supply purchase and sale prices for securities eligible for trading, continuously throughout all normal trading hours. **The post-trade transparency obligations** require all these operators also to publish information on transactions executed (price, volume, time) after the trade has taken place.

The rules governing systemic internalisers are less strict. For example pre-trade transparency applies to these intermediaries solely for so-called "liquid" securities[14], and on condition that they execute trades of below "standard market size"[15] on these shares. Moreover, the "best execution" principle is limited to the criterion of total price when the investment firm executes an order on behalf of a retail client[16], an instance that concerns these systematic internalisers in the first place.

4. The new regulation is expected to exert further downward pressure on transaction costs

4.1 A downward impact on commissions, a less certain impact on liquidity ...

***A priori*, we can expect the advent of competition between different trading venues to lead to lower transaction costs-both explicit and implicit**. That is because competition among suppliers of liquidity leads them to compete on the bid-offer spread, while competition between different trading centres curbs the monopoly rent constituted by the cost of access, among others, and encourages them to innovate in order to reduce their costs[17].

However, fragmentation of the order stream between more than one trading system can also mechanically reduce liquidity in the originating centre. The old theoretical argument that the coexistence of several competing markets is unviable is no longer valid. This assertion, which used to follow the Wall Street adage "liquidity begets liquidity", was equivalent to assuming that agents would opt for the most liquid market until the demise of the other markets[18]. It fails to allow for the heterogeneous needs of the different types of investors[19] (in terms of cost, speed of execution, order size, etc.), which the coexistence of several competing trading systems with distinct operational modes ought to address more effectively[20].

On the other hand, the flight of orders from the main market could impair the quality of the market. This would notably be the case if the internalisers were to distort the nature of the order stream by attracting "uninformed" investors, generating a profit (cream skimming) on them. In theory, uninformed investors are indispensable to the price discovery process. Voiding the main market of these investors would be prejudicial to market quality. The reason for this is that liquidity providers widen their bid-offer spreads when in the presence of agents better informed than themselves[21] in order to avoid having to trade at prices unfavourable to them. The impact is felt on internalised orders, which are in turn executed at less favourable prices, being based on market prices.

(13) Article 21 of the MiFID Directive 2004/39/EC of 21 April 2004.

(14) A share is considered to be liquid if it is traded daily, if it has a free float not less than €500 million, and if one of the following conditions is satisfied: the average daily number of transactions in the share is not less than 500; or the average daily turnover is not less than €2 million (see article 22 of EC regulation 1287/2006 implementing the MiFID Directive). (N.d.T. = texte du règlement : "n'est pas inférieur", dans les deux cas).

(15) This threshold itself depends on the average value of orders executed, see article 23 of regulation 1287/2006.

(16) Article 44 of directive 2006/73/EC of 10 August 2006 implementing the MiFID Directive.

(17) Hamilton (1979): "Market Place Fragmentation, Competition, and the Efficiency of the Stock Exchange", *Journal of Finance 34(1), 171-187*.

(18) Mendelson (1987): "Consolidation, Fragmentation, and Market Performance", *Journal of Financial and Quantitative Analysis 22, 187-207*.

(19) The heterogeneousness of operators' preferences is confirmed by the annual Institutional Investor survey of traders working for asset managers. They rank securities trading systems by quality of global execution service. In particular, the survey finds that institutional investors prefer electronic systems, which enable them to trade large blocks of securities more rapidly and cheaply.

(20) In theory, several markets can coexist if the most liquid market is also the most expensive one, thereby attracting the largest operators, as in the case of the block trading market, see Pagano (1989): "Trading Volume and Asset Liquidity", *The Quarterly Journal of Economics, 104(2), 255-274*.

(21) This the "adverse selection component of the bid-offer spread", see Kyle (1985): "Continuous auctions and insider trading", *Econometrica 53, 1315-1335*.

Box 3: **new platforms**

Since November 2007, *Chi-X*, launched by Instinet, has proposed a centralised order book (CLOB) on 8,200 paneuropean actions. Similarly, *Equiduct*, majority-held by the Berlin stock exchange, is based on an updated version of the defunct Easdaq trading platform, with a hybrid order book fed by limit price orders from investors and market makers.

The *Turquoise* project unveiled by seven major investment banks, Merrill Lynch and Goldman Sachs among them, would constitute a European equities trading platform *via* an alternative order book. The system's launch, initially planned for the end of 2007, has been postponed till the second quarter of 2008. The largest project announced to date is ITG, with its *Posit Now* system, launched in February 2007. Since 1 November 2007, and like its American counterpart, this has allowed investors to trade shares continuously and anonymously, covering 9,000 shares from 15 countries.

It therefore remains difficult in theory to foresee the actual impact of the new regulations, especially since it will differ depending on the type of investor, or depending on the security concerned by the transaction. According to Bennett and Wei (2006), the less liquid the share (in terms of trading volume or bid-offer spread) the greater the adverse impact of fragmentation on share price volatility and transaction costs.

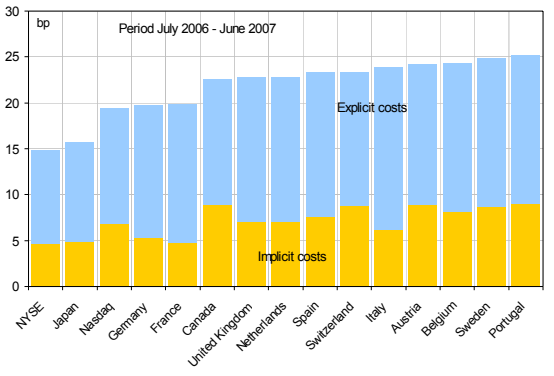
4.2 ... that needs to be qualified in the light of past and present examples

Lower commissions through increased competition can yield hefty economic gains. Taking into account the existing degree of automation of trading systems in Europe, Domowitz and Steil (2002) show that transaction costs could fall by 50% across the area as a result of reduced explicit costs alone.

Examples from the past confirm that the monopoly or quasi-monopoly situation of traditional bourses at the national level can lead to excessive costs for both issuers and investors. The most blatant examples are those of the London Stock Exchange, which was obliged by the UK Office of Fair Trading to cut its annual fees billed to issuers by 25%, or again the 30% cut in trading fees charged by Euronext Amsterdam in response to the launch of the competing Dutch Trading Services.

On the other hand, not all cases exhibit the potentially adverse effects of fragmentation on liquidity. On the contrary, liquidity improved following implementation in the early-1990s of a dual trading system between London and Paris for the most liquid shares of firms listed on the Paris Bourse (traded on London's SEAQI)[22]. Observation of transaction costs in Europe, thanks to the data gathered by Elkins-McSherry, also shows that Germany is best placed in terms of liquidity, this country having put in place an optional exemption from the order concentration rule. In this case, fragmentation therefore does not appear to have impaired market quality[23]. Moreover, direct costs in Germany (16.24 bps) are relatively high even though the silo structure of the German bourse, which also controls clearing and delivery-settlement, ought to generate substantial economies of scope.

Chart 5: average transaction cost breakdown



Source: Elkins-McSherry.

Chart 5 should be read as follows: for the period July 2006-June 2007, the NYSE, Nasdaq and Japan have the lowest transaction costs, with France ranking fifth behind Germany. The United Kingdom ranks seventh if one considers only the sell side of transactions[24].

(22) Hamet (1998): "Competition or fragmentation? A test of the impact of the SEAQI on the liquidity of the Paris Bourse", *Cahier de Recherche du CEREG n°14*.

(23) Another explanatory factor no doubt lies in the very small tick (€0.001 between €0.001 and €0,249 and €0.01 beyond €0.25).

(24) That is because stamp duty is systematically charged on purchases, raising the "fee" component to 49.91 bp instead of 0.52 bp for sales. Consequently, the British exchange's true ranking is well behind the front-runners.

5. An already significant order stream could rapidly be diverted towards the new trading systems

Forecasting the European stock exchange scene in the medium term (3 to 5 years hence) is a delicate task. Several broad scenarios are conceivable, though none really predominates.

One possible scenario remains a continuation of the *status quo*, in which the regulated markets manage to preserve their domination, pursuing the process of consolidation observed in Europe in recent years, as well as between European and North American exchanges. This would allow them both to provide investors with an ever-wider pool of liquidity and to reap the benefits of economies of scale.

However, the launch or announcement in recent months of the creation of a certain number of alternative trading systems, corresponding to the post-MiFID MTFs, argues for a more fragmented European stock exchange landscape (see box 3).

The current uncertainty primarily concerns the emergence of new systematic internalisers, given the heavy demands associated with this status (in terms of capital, disclosure rules and operational procedures). Investment banks have to face a trade-off between the cost of developing an internaliser activity and the resulting revenues. Only very large banks will be able to achieve the critical mass needed to handle sufficiently large volumes of transactions to offset prices that are less attractive for them. Conversely, other operators could target certain listed securities or certain types of investors offering potentially higher gains[25].

In the case of France, it is possible to identify the volume of order streams already leaving the order book[26], and which could thus rapidly be steered towards the alternative trading systems. This analysis was based on data concerning transactions on Euronext Paris-listed securities, confining itself to "wholesale market" transactions, *i.e.* those having a minimum value of €50,000.

These estimations indicate that the new regulations could have a significant impact: the transactions thus identified represented around 10% of the total volume of trading in CAC 40 shares in 2007 and could be diverted from the regulated market each year. This volume, split roughly equally between systematic internalisers and "crossing systems"-type MTFs , at first sight represents only a fraction of the total wholesale market volume that could escape the regulated market. A variety of studies have generally estimated the volume of block transactions executed off-market at nearly 30%[27].

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(25) For example, some could specialise in "wholesale clients" since, under MiFID, the pre-trade transparency rules will not apply to internalisers for large transactions carried out on the most liquid shares identified by the directive; others would offer systematic internalisation for other "illiquid" shares for the same reason.

(26) This concerns "applications", which consist in the simultaneous matching and execution by a single institution, at the same price, of two opposing orders for the same quantity of a given security, and transactions eligible for block trading (depending on a predefined minimum size).

(27) See Bessembinder and Venkataraman (2004) for Euronext, and Madhavan and Cheng (1997) for the NYSE.

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