

Wharton

Financial
Institutions
Center

*Changes in the Ownership and
Governance of Securities Exchanges:
Causes and Consequences*

by
Benn Steil

02-15



The Wharton Financial Institutions Center

The Wharton Financial Institutions Center provides a multi-disciplinary research approach to the problems and opportunities facing the financial services industry in its search for competitive excellence. The Center's research focuses on the issues related to managing risk at the firm level as well as ways to improve productivity and performance.

The Center fosters the development of a community of faculty, visiting scholars and Ph.D. candidates whose research interests complement and support the mission of the Center. The Center works closely with industry executives and practitioners to ensure that its research is informed by the operating realities and competitive demands facing industry participants as they pursue competitive excellence.

Copies of the working papers summarized here are available from the Center. If you would like to learn more about the Center or become a member of our research community, please let us know of your interest.



Franklin Allen
Co-Director



Richard J. Herring
Co-Director

*The Working Paper Series is made possible by a generous
grant from the Alfred P. Sloan Foundation*

Changes in the Ownership and Governance of Securities Exchanges: Causes and Consequences

Benn Steil

Council on Foreign Relations

to be published in

Brookings-Wharton Papers on Financial Services, 2002

This version: February 2002

Introduction

Over the past five years we have witnessed substantial changes in the ownership and governance structures of securities exchanges, particularly in Europe. Recent surveys indicate that a substantial majority of the world's exchanges would like to "demutualize" in the coming years. The concept of demutualization remains a hazy one, however, along multiple dimensions: the factors that distinguish a demutualized from a mutualized exchange, the factors that motivate demutualization, and the implications of demutualization for the way in which exchanges are regulated. In seeking to clarify the meaning of demutualization, we hope as well to clarify the sources of conflict between the role of an exchange as a commercial enterprise acting in the interests of its owners and its role as a quasi-regulatory body. Government regulators around the world have expressed concern about the effect of exchange ownership and governance reforms on

the ability of exchanges to meet the self-regulatory obligations devolved to them. Mutuality and self-regulation in the public interest are typically seen as going hand-in-hand. As we discuss in some detail, it is this misapprehension that lies at the heart of many concerns directed at demutualization. Regulatory failures are inevitable any time self-regulatory obligations imposed on an exchange conflict with the commercial interests of the exchange's owners. Such commercial interests are no less powerful for a mutualized exchange than for a demutualized one.

Exchange Governance: a Technological Account

Mutuality and Floor Trading

The traditional model of an exchange as a locally organized mutual association is a remnant of the era before trading system automation. As trading required visual and verbal interaction, exchanges were necessarily designated physical locations where traders would meet at fixed times. Access to the exchange had to be rationed to prevent overcrowding and, when single-price periodic call auctions were prevalent, to ensure that simultaneous full participation was physically feasible.

As trading “systems” were simply rules governing the conduct of transactions, exchanges were naturally run by the traders themselves as cooperatives. Organizing trading floors as companies selling transaction services would have been infeasible, as there was no “system” distinct from the traders themselves - only an empty room. Rationing access to the exchange was generally done through a combination of substantial initial and annual membership fees, in order to ensure self-selection by high-volume users. Non-members naturally wished to benefit from the network externalities of concentrated trading activity (commonly referred to as “liquidity”), and therefore paid members to represent their buy and sell orders on the exchange floor. This is how exchange members came to be intermediaries (“brokers”) for investor transactions.

Mutuality and Automated Trading

The economics of automated auction trading are radically different. The placement and matching of buy and sell orders can now be done on computer systems, access to which is inherently constrained neither by the location nor the numbers of desired access points. In a fully competitive “market for electronic markets,” the traditional concept of membership becomes economically untenable. As the marginal cost of adding a new member to a trading network declines towards zero, it becomes infeasible for an exchange to impose a fixed access cost, or “membership fee.” Rather, only transaction-based (*ie*, variable cost) charging is sustainable. Indeed, we see this trend clearly among automated exchanges faced with significant competition: Deutsche Börse and OM Stockholm, for example, have eliminated membership fees. The transactors on electronic networks, therefore, come to look much more like what are normally considered “clients” or “customers” of a firm than “members” of an association. And since an electronic auction system is a valuable proprietary product, not costlessly replicable by traders, it is feasible for the owner to operate it, and sell access to it, as a normal for-profit commercial enterprise. This contrasts with a traditional exchange floor, whose value derives wholly from the physical presence of traders.

The fact that an automated exchange can be operated as a commercial enterprise, unlike a traditional floor-based exchange, does not in itself make an economic case for a corporate rather than mutual governance structure. However, such a case emerges naturally from an analysis of the incentive structures under which a mutualized and corporate exchange operate.

Exchange members are the conduits to the trading system, and they thereby derive profits from intermediating non-member transactions. They can therefore be expected to resist both technological and institutional innovations which serve to reduce demand for their intermediation services, even where such innovations would increase the economic value of the exchange itself. If the members are actually *owners* of the exchange, they will logically exercise their powers to

block disintermediation where the resulting decline in brokerage profits would not at least be offset by their share in the increase in exchange value.

As a major economic benefit of automated auction trading is the elimination of the need for trade intermediation, mutualized exchanges can be expected both to have difficulties introducing automated systems and, once introduced, allowing their full potential to be exploited by non-member investors. Both of these effects can be well documented. The largest UK-based market-makers on the London Stock Exchange (LSE) fought to block the adoption of electronic auction trading in the mid-1990s. New York Stock Exchange (NYSE) specialist firms have long fought against automated matching of investor orders and display of their limit order books to the trading floor and the wider public. Nasdaq market-makers blocked the incorporation of mandatory price-time priority in Nasdaq's trading system upgrade, known as SuperMontage, successfully arguing that customers should be allowed to trade with them even if they were not posting the best price, or the earliest best price (they could simply agree to match the best posted price). Non-member-based commercial trading system operators, on the other hand, have always chosen both to operate automated auction structures and to do so without any intermediation requirement (except for retail orders, for which such operators have traditionally not wished to manage the credit risk function).

What are the efficiency costs inherent in exchanges continuing to operate as broker-dealer cooperatives? Recent empirical evidence suggests two primary ones: higher trading costs (and therefore lower returns) to investors, and higher capital costs to listed companies.

Domowitz and Steil (2002) estimate total trading costs to be 28-33 percent higher through NYSE and Nasdaq traditional broker members than through non-intermediated for-profit trading system operators (now commonly referred to as ECNs). They estimate that European trading fees alone would fall a massive 70 percent if the European exchanges were to move to an ECN governance model: *ie*, eliminating membership and allowing direct investor access. Historically,

mutualized exchanges have sought to fix commissions and prevent price competition.¹ For-profit non-member-based trading system operators, on the other hand, have the opposite incentive: to mitigate access costs to their system imposed by intermediaries.

The emergence of commercial rather than mutualized trading operations should also result in lower capital costs to listed companies. Domowitz and Steil (2002) demonstrate not only that distintermediating trading reduces trading costs, but that trading cost reductions in turn reduce the cost of raising equity capital. The halving of total trading costs which they document in the US between 1996 and 1998 resulted in an 8 percent decline in equity capital costs to S&P 500 companies. The authors further estimate that the elimination of mandatory broker intermediation at the European exchanges would result in at least a 7.8 percent savings to European blue-chip companies.

Demutualization

Remarkably, there is no standard definition of a “demutualized” exchange. In informal discussion, the emphasis is often placed on whether the exchange is run on a for-profit basis. However, the central question is not whether the exchange is legally able to distribute surplus funds back to the owners – the definition of for-profit status - but rather who owns the exchange in the first place. For-profit exchanges are therefore not necessarily demutualized; in fact, most are not.

Separation of ownership and membership is fundamental to the concept of demutualization. Why do exchanges choose to bring in non-members as owners? Exchange officials often maintain publicly that they must sell ownership stakes to outsiders as a means of raising capital for expansion and technology investment. Empirically, however, we find that

¹ For example, Banner (1998) notes that from the NYSE’s founding “the Board organized brokers into a classic cartel with respect to brokerage commissions” (p.266).

raising capital is generally a secondary aim, or absent as an aim altogether. Most exchanges that have demutualized have had no immediate need for fresh capital. Amsterdam actually used its demutualization as an opportunity to return excess capital to the members. Furthermore, if capital is, in fact, necessary, it can normally be raised from the member firms without having to turn to outsiders.

The primary function of a demutualization is to reduce the control of (particularly local) intermediaries over the strategic positioning of the exchange. This is in recognition of the fact that exchanges operating in a competitive financial market must ultimately be able to reduce capital costs for a significant subset of companies, and raise investment returns for a significant subset of savers, relative to the next-best financing alternative (whether that be another stock exchange, the bond market, or the banking sector). Intermediaries, in seeking to maximize their own profits from trade intermediation, can act to impair the ability of exchanges to serve companies and investors with maximum efficiency. It is not surprising that officials of mutualized exchanges rarely argue this *publicly*, and instead claim that demutualization is needed to expand their capital bases. But it is in reality typically a response to members frustrating their efforts to implement less intermediated trading structures, to expand direct trading access to foreigners or institutional investors, or to merge with other exchanges. All of these efforts can serve to reduce demand for the services of existing members.

Under what conditions will exchange members actually accept new outside ownership? The key variables tend to be the degree of competition, or potential competition, which the exchange faces, and the degree to which the largest member firms operate internationally.

Competition makes it difficult for members to protect their intermediation franchise, and therefore makes them more open to governance reform and outside ownership. It is not surprising that the pioneer demutualizers were three Nordic exchanges and Amsterdam. These exchanges operate in small and highly open national economies. Each faced significant

competitive threats from abroad, particularly London, to trading in their key blue chip stocks. The New York Stock Exchange, on the other hand, has yet to see effective competition materialize, and the members have therefore successfully resisted the high profile demutualization initiative launched by its chairman in 1999.

The internationalization of membership also facilitates demutualization. Large international banks which are members of numerous exchanges have much less motivation to defend mutualization than local players. Locals have a strong incentive to maintain institutional barriers to disintermediation of their services, whereas larger international players tend to see governance reform as an effective weapon for increasing their strategic control of the exchange *vis-à-vis* the locals (typically by replacing “one member, one vote” and committee-based decision making with decision-making tied more directly to the size of the ownership stake). The same argument holds for trading automation. Locals tend to dominate market-making and specialist functions. It is no surprise that it was the large international banks which championed the cessation of floor trading in Amsterdam and market making in London in the mid-1990s, whereas the locals fought bitterly to stave off automated trading.

The mere fact that an exchange can be partially owned by specific non-members does not itself suggest that the incentive structure guiding its behavior will be materially different from that of a wholly mutualized exchange, or that its interests will be better aligned with those of investors and issuers. In many cases, outside ownership is limited to not-for-profit or mutualized entities such as the national central bank or the broker-owned central securities depository (CSD); entities which have little or no incentive to challenge broker interests. Deutsche Börse and the Paris Bourse prior to their IPOs in 2001 were already organized as for-profit companies, although ownership stakes, controlled almost exclusively by members, could not be sold without approval of the supervisory board (which effectively meant that they could not be sold). These exchanges therefore had an incentive structure almost precisely identical to that of a mutualized exchange.

What is essential to a successful demutualization, then, is that non-members are free to buy equity stakes in the exchange from current owners. This is what makes it possible to change the incentive structure.

If we classify as demutualized all exchanges which permit members freely to sell their equity stakes in the exchange to non-members (albeit perhaps with limitations related to maximum shareholdings, etc.), it is still clear that there are huge differences in governance structure among demutualized exchanges. At one extreme is the Borsa Italiana, which is demutualized according to this definition, but is nonetheless 90% owned by Italian intermediaries. By the reckoning of many within the Borsa, it functions more or less as it did prior to its demutualization – or, more accurately, prior to its privatization, as it was effectively sold by the Italian Treasury. At the other extreme is OM Stockholm, which is self-listed and which has a highly diversified shareholder base, approximately a quarter of which is foreign. London-based virt-x, a pan-European blue chip exchange dominant only in Swiss SMI index stocks, has a complex ownership structure: 40% of the company is owned by the Swiss Exchange, itself a mutual association; 38% is owned by a consortium of major US and European financial institutions; and 22% free-floats on the AIM small cap market of the London Stock Exchange, a competitor.

Table 1 lists those exchanges which we would be consider to be demutualized at the end of 2001, and those which may meet this standard in 2002.

[TABLE 1 HERE]

The 1999 (anonymous) FIBV² survey found that 11 (22%) of the 49 member stock exchanges responding indicated that they were demutualized, whereas we identified nine (plus two derivatives exchanges and never-mutualized Tradepoint) at that time. This discrepancy is consistent with an observed general preference among exchanges to be viewed as demutualized. A remarkable 79% of mutualized exchanges surveyed by bta Consulting (2001) claimed that they would demutualize within two years (although the survey does not reveal the number of exchanges polled).³

The FIBV survey also found that 49% of respondents indicated that they were organized as limited companies, but not demutualized; 15% were organized as mutual associations; and 13% were effectively state-controlled institutions. 54% of respondents indicated that they were for-profit entities, up from 38% a year earlier. This included 57% of the limited companies and 14% of the mutuals.

Formal Models of Exchange Governance Choice

There are two journal-published formal mathematical models of exchange governance choice, the first by Hart and Moore (1996) and the second by Pirrong (2000). Although presented as general models, they each focus on highly idiosyncratic and simplified options for governance and characteristics of exchange members. This limits their applicability in terms of understanding the drivers of the current demutualization movement.

Hart and Moore (1996) analyze the efficiency of an exchange run as a members' cooperative relative to that of a for-profit exchange with a single outside owner. Efficiency is defined in terms of the proximity of the price that would be set for a unit of exchange services

² FIBV are the French initials for the International Federation of Stock Exchanges.

³ 78% of exchanges surveyed at the October 2000 FIBV conference said that they either had approval to demutualize or were actively considering demutualization.

under each structure to the cost of supplying it. Trader-members are presumed to differ only along the dimension of “size,” defined in terms of their demand for exchange services (for example, trading volumes). It is assumed that under the members’ cooperative structure profits will be distributed equally among all members, and that members therefore face a tradeoff between the desire for cheap trading and the desire for exchange profits. Given this model of the governance choice, the authors show that the members cooperative structure will be perfectly efficient (that is, price equals cost) where member “size” is identical, and that the outside owner structure becomes relatively more efficient as the skewness of the member size distribution is increased (an illustration of the so-called median voter theorem). They further show that the introduction of a competing exchange disciplines the pricing policy of the for-profit exchange, increasing its relative efficiency, while having no effect on the pricing policy of the members’ cooperative. Thus, growing inter-exchange competition should have the effect of increasing the prevalence of for-profit exchanges.

A different rendition of the governance choice problem yields very different results. Pirrong (2000) also examines the impact of member heterogeneity on governance structure, and concludes that it has the opposite effect: more heterogeneity favors a not-for-profit structure, which Pirrong likens to the traditional members’ cooperative exchange.

There are several reasons for the different outcomes of the two models. First, Hart and Moore (1996) and Pirrong (2000) define the governance choices very differently. Hart and Moore’s version of the traditional members’ cooperative exchange is one in which all profits are distributed equally among members, whereas Pirrong’s version allows no distribution. Furthermore, Hart and Moore’s version of the for-profit exchange separates ownership from membership entirely, whereas Pirrong’s version does not separate them at all: it merely allows distribution of profits to the member-owners. Confusingly, then, Pirrong’s version of a for-profit exchange is consistent with Hart and Moore’s version of a members’ cooperative. Second, the

source of member heterogeneity is different in the two models. Hart and Moore assume that members differ only in the quantity of exchange services (that is, trading) they demand, whereas Pirrong assumes that they differ only along an efficiency dimension (that is, that there are higher and lower cost brokerage services providers). Third, Pirrong's model, unlike Hart and Moore's, allows for exchange members to collude and defect from the exchange. He uses this feature to show that low-cost members can prevent high-cost members from extracting too much surplus from them by credibly threatening to form another exchange. As it is only under Pirrong's version of a for-profit exchange that such surplus expropriation is feasible, Pirrong asserts that member homogeneity leads to a for-profit structure, whereas sufficient heterogeneity allows low-cost members to enforce a not-for-profit structure, which, under his version of a not-for-profit exchange, limits expropriation.

These models are of strictly limited use in understanding the drivers of the actual trend towards demutualized, for-profit exchanges with (at least partial) non-member ownership. The results of Hart and Moore's modelling, for example, rely on the assumption that exchange policies are set wholly on the basis of majority voting of the members, which is implausible in an environment where competing trading venues can and do exist.⁴ Larger members will clearly have greater influence because of their ability to migrate their trading activity, which is generally the primary source of an exchange's revenue. Pirrong's modelling excludes the possibility of exchanges which are not wholly owned by members, and therefore fails entirely to capture the most important feature of the demutualization movement: the separation of ownership of an exchange from its membership. As is illustrated in Hart and Moore's model, member-owners want both low exchange costs and high exchange profits, whereas outside owners only want high profits. This very different incentive structure can have a significant impact on exchange

⁴ See also the critique of Di Noia (2001).

policies. Pirrong's version of a for-profit exchange is therefore much more similar to a traditional not-for-profit mutual than a contemporary for-profit exchange with a diversified shareholder base.

The closest real-world examples of Pirrong's for-profit exchange are Deutsche Börse and the Paris Bourse prior to their IPOs in 2001. Those two exchanges were legally for-profit corporate entities, but the owners and the members were virtually one in the same. The closest real-world example of Hart and Moore's for-profit exchange, however, is UK-based Tradepoint prior to its reincarnation as virt-x. A listed company, Tradepoint did not even have what can meaningfully be called members: users paid almost entirely on a transaction basis.

One important dimension of the link between trading automation and exchange governance which Pirrong's focus on member heterogeneity does capture, however crudely, is the impact of automation on the role of specialized intermediaries – such as the NYSE specialist, the Amsterdam *hoekman*, and the German *Kursmakler*. These intermediaries act to promote the confluence of orders and trading activity in given securities on a trading floor, but are not necessary in an automated trading environment where a computer can fill this role. Thus, trading automation has the effect of eliminating specialized intermediary functions, thereby negating a traditionally important feature of the mutual structure: precluding changes in trading rules which enable the transfer of surplus from one group to another. This also explains the observed resistance of specialized intermediaries to demutualization, which is invariably associated with a decline in their voting rights and a shift to automated trading and disintermediation. Contrary to Pirrong, however, it is the *high-cost* intermediaries, those with skills specific to trading floors, which typically defend the traditional mutual status, as it is their skills which are rendered obsolete under automated trading.

The focus of both Pirrong (2000) and Hart and Moore (1996) on trader heterogeneity as the dominant explanatory variable in the governance problem is an inevitable by-product of the standard modeling technique applied, which defines the problem in terms of competitors differing

along one dimension only because it is mathematically tractable in such a form. However, it is clear that such heterogeneity is itself a product of the trading technology employed and, as we explained previously, the traditional not-for-profit mutual structure of an exchange is a direct corollary to traditional floor trading. What is missing in both Pirrong (2000) and Hart and Moore's (1996) accounts, then, is the causal relationship between trading technology and exchange governance. Our model of exchange governance choice might reasonably be labelled "technological determinist," as the critical independent variable is clearly the state of trading structure technology. All pre-automation exchanges logically begin as cooperatives, and revisit this choice of status only after trading automation makes demutualization a viable alternative. Whether the exchange actually demutualizes is determined largely by the state of competition, which is itself very much dependent on the confines imposed by the regulatory regime.

Exchanges and Self-Regulation

Is Self-Regulation Inconsistent with Demutualization?

Former US Securities and Exchange Commission (SEC) Commissioner Roberta Karmel (2000) identified four areas in which the NYSE and Nasdaq carry out self-regulatory functions:

1. listed company governance and disclosure;
2. surveillance and discipline of their markets and specialists, floor brokers and market makers;
3. member firm financial and operational compliance; and
4. fair and equitable treatment of customers.

As these functions need to be carried out effectively in any securities market, it is important to consider carefully whether demutualization implies that an exchange will be less motivated or less able to manage them. We consider each function in turn.

Listing and Disclosure

Exchanges typically perform functions wholly unrelated to the actual trading of securities, and indeed are frequently required by national law to perform such functions. The most significant one is “listing” the company shares to be traded on the exchange. The IOSCO⁵ Technical Committee (2001) specifically refers to listing as a “regulatory function” (p4).

Listing is fundamentally a quality control function, designed to ensure that companies admitted to a given segment of the market (*eg*, large cap or small cap) meet disclosure requirements appropriate to their size and age. Its role in the equity markets is comparable to that of “ratings” in the bond market, even if the mechanisms of being listed and rated are very different. But just as bond rating agencies have a strong incentive to rate bonds more accurately than their competitors, listing agencies should have strong incentives to set listing requirements for publicly traded companies neither too low nor too high. If disclosure requirements are excessive for the size and age of the companies wishing to be publicly traded, then the agency will unnecessarily sacrifice listing revenues. If they are set too low, however, investors are more likely to be harmed by unexpected events, like profit warnings. Investors will therefore shun such stocks, and the agency’s reputation and pricing power in the listings market will suffer.

It is an unfortunate historical legacy, however, that in much of the world governments have treated listing as a self-regulatory function to be performed by the monopoly national exchange. As a matter of logic and history, however, listing should never have been considered an obligation that needed to be imposed on exchanges. The board of the NYSE began imposing

⁵ International Organization of Securities Commissions

formal listing standards in 1856, and did so wholly of its own accord and in consideration of its own interests. The main reasons for the development of such standards would appear to have been the protection of members trading on their own account and the incentive to listing provided to companies from the public signal of financial soundness and stability.⁶ This incentive is reflected in the fact that exchanges typically extract a significant proportion of their annual revenues from listing activities (34% on the NYSE in 2000, 21% generally according to the 1999 FIBV member survey).

Whereas listing is clearly a valuable market function, it is important to recognize that there is no logical reason why trading system operators should necessarily be the ones to carry it out. It could just as easily be performed by accounting firms or rating agencies, and done on a competitive basis. Competition for listing standards should help both to drive down listing costs and to discover the optimal listing standards for companies with different characteristics.

Any assumption that listing standards will always be set too low if established on a purely commercial basis is clearly faulty. A recent example illustrating this comes from Germany's Neuer Markt, a small cap market operated by Deutsche Börse. Having concluded in 2000 that a 70 percent year-on-year decline in its listed share prices needed to be at least partially ascribed to a lack of investor confidence in company disclosure - following a string of profit warnings, insider dealing investigations, and insolvencies - the exchange implemented new rules to mandate more comprehensive and standardized company reports and revelation of directors' share dealings. Offenders were made subject to new punitive actions and publication of their offenses on the internet. These actions were taken wholly on the basis of the exchange's evaluation of its commercial self-interest.

Exchange demutualization is therefore certainly no less consistent with the development and enforcement of appropriate corporate listing and disclosure standards than is mutualization.

⁶ See Banner (1998).

Indeed, regulators should welcome the entry of non-exchange entities into the listing business as a means of driving down capital costs through lower listing fees and the development of better listing standards.

Trading Surveillance

Karmel, in referring to the surveillance of “specialists, floor brokers and market makers,” identified specific features of the NYSE and Nasdaq trading environments; features which either do not exist or play only an ancillary role in automated trading structures. Markets where human intermediation is built into the basic trading mechanism do require a level of active monitoring and policing which exceeds that which is necessary in markets where the matching of investor orders takes place in a computer according to a pre-specified algorithm. Human discretion breeds error, inconsistency, and malfeasance.

In the case of the NYSE, at the time of writing there is ongoing SEC monitoring of the Exchange’s compliance with undertakings it made following a 1999 SEC administrative order which “found that the NYSE had failed, without reasonable justification or excuse, to enforce federal laws and NYSE rules against unlawful proprietary and discretionary trading by NYSE floor brokers.”⁷ The SEC investigation involved illegal trade practices dating back to 1991. Nine floor brokers pleaded guilty in 1998 to reduced criminal charges surrounding systematic front-running of customer trades;⁸ the charges having been reduced owing to revelations that the

⁷ See the letter from then-acting SEC Commissioner Laura Unger to Congressman John Dingell, Ranking Member of the House Committee on Energy and Commerce, September 20, 2001 (http://www.house.gov/commerce_democrats/press/1020sec.nyse.pdf). Also see the response from Congressmen Dingell and John LaFalce, Ranking Member of the House Committee on Financial Services, dated November 5, 2001, (http://www.house.gov/commerce_democrats/press/107ltr98.htm), stating that “continuing important deficiencies remain” in the NYSE’s compliance with its undertakings following the SEC’s 1999 administrative order.

⁸ Floor brokers are prohibited by law from trading for themselves or sharing in the profits generated by their own trading. The floor brokers in question were charged with an illegal form of trade front-running known as “intraday trading” or “flipping.” This involves the rapid buying and selling of shares at prices between the quoted sale and purchase prices. The SEC has ruled that the practice is illegal when traders take a share of the profits. The floor brokers in question were charged with flipping based on knowledge of large orders on the floor and splitting the profits with Oakford Corp., a now-defunct brokerage firm.

practice had been widespread and known to NYSE officials.⁹ Revelations from more recent investigations suggest that NYSE officials not only knew of such activities, but took active steps to keep them hidden from the SEC and the public at large.¹⁰ In the case of Nasdaq, the SEC published a report in 1996 concluding that Nasdaq market makers had engaged in collusion and other illegal behavior in order to keep publicly quoted bid-offer spreads artificially wide, and that the NASD had systematically failed to enforce its own market rules. These are only the most recent cases of major failures of self-regulatory organization (SRO) trading surveillance in the United States. There is a long and inglorious history preceding them.

There is nothing about mutuality that lends itself to an effective partnering with SRO trading surveillance obligations. Whether a mutualized exchange is run on a not-for-profit or for-profit basis is immaterial. A mutualized exchange exists to serve the interests of its members. This is what it is established to do; and if it fails to do so effectively, it will inevitably be reformed or disbanded. A demutualized exchange is not faced with any greater conflict of

⁹ “The inquiries [by federal prosecutors and the SEC] are the latest stage of a controversy that erupted in early 1998, when the Manhattan U.S. Attorney charged a group of NYSE floor brokers with exploiting knowledge of big orders on the floor to make quick trades and then split the profits with Oakford Corp., a now-defunct brokerage firm. The Oakford case became an embarrassment for both prosecutors and the NYSE when it emerged that intraday trading, also called ‘flipping,’ had been widespread in the early 1990s on the floor and the NYSE had taken the position that in some circumstances, it wasn’t illegal for floor brokers to share in the profits of their trading. The revelations forced prosecutors to reduce criminal charges against nine brokers, to which they eventually pleaded guilty, and to drop them altogether against a 10th broker, John D’Alessio. The SEC is still pursuing civil charges against the brokers” (*Wall Street Journal*, February 20, 2001). See also *Financial Times* (February 20, 2001). D’Alessio subsequently agreed to forfeit \$200,000 in trading profits, neither admitting nor denying wrongdoing, as part of the settlement of the civil case brought by the SEC. D’Alessio’s lawsuit against the NYSE alleged that Exchange officials condoned illegal trades for which he was later arrested. The 2nd US Circuit Court of Appeals in New York, however, concluded that the NYSE was immune when performing “quasi-governmental functions” related to market oversight.

¹⁰ NYSE documents “clearly responsive to document requests served on the NYSE during the Commission’s investigation into the NYSE in late 1998 through June 1999” (Unger, op cit) were turned over to the Commission in October and December 2000. “Included in the documents were hand-written notes dated June 21, 1993, by Donald Siemer, director of rule development in the NYSE’s market-surveillance division, taken at a meeting with senior NYSE regulatory officials Robert McSweeney and Brian McNamara. In one section of the notes, Mr. Siemer wrote the phrase ‘intraday trading,’ immediately after which he added in all capital letters, ‘DO NOT DISCUSS WITH SEC.’ . . . In another note, dated Jan. 7, 1992, at a meeting with Mr. McNamara, regarding a coming meeting where intraday trading was to be discussed, Mr. Siemer wrote, ‘Nothing in writing.’ Asked during the January deposition what that line referred to Mr. Siemer again said, ‘I don’t recall’ (*Wall Street Journal*, February 20, 2001).

interest merely because some portion of its ownership are not trading members of the exchange. Indeed, the scope for such conflict of interest should be less: first, because demutualized exchanges or proprietary trading system (PTS)¹¹ operators invariably utilize less intermediated trading structures than mutualized exchanges and, second, because non-member owners have less incentive to support the interests of members than do member owners.

Member Financial and Operational Compliance

Mutualized exchanges have a powerful interest in ensuring the credit worthiness of all members. Each member wants assurance that the counterparty on an given trade can meet its obligations. Exchanges often institute AAA-rated central counterparties to guarantee performance on all trades, and the cost of establishing and operating a central counterparty will itself depend upon the financial viability of the participating members. Therefore, ensuring that members complete transactions with other members in a timely and secure fashion is hardly a self-regulatory “obligation” of an exchange: it is a prerequisite for effective operation in the interests of its members.

Demutualized exchanges or PTSs have no less an interest in ensuring the inviolability of a transaction. Instinet, for example, operates as a central counterparty for all client trades so that clients do not have to be concerned about the reliability or financial condition of other Instinet clients. Instinet, in turn, has a strong financial interest in vetting its clients, and in not doing business with those which could expose Instinet to trading losses. The SEC’s frequently stated concern that systems such as Instinet were “closed” rather than “public” is misguided along two dimensions. First, US floor-based exchanges are no more publicly accessible than Instinet; in fact, they are less so, as they, unlike Instinet, allow only a strictly limited number of members.¹²

¹¹ PTS is a generic term referring to non-member-based trading systems owned and operated outside the legal entity of an “exchange.”

¹² Pirrong’s claim that “virtually all exchanges restrict the number of members” (2000:440) is false: this has only ever been the case for floor-based exchanges.

Second, obliging Instinet to extend access to its clients' bids and offers to non-clients exposes Instinet to credit risk which it cannot control. This is neither in the interests of Instinet nor its clients.

Fair Treatment of Investors

It is in the area of investor protection where mutualized exchanges operating as SROs suffer from the most salient conflict of interest. Exchange members are never going to want interference in their customer relationships from the exchange which they own, and which was created to serve their interests. A demutualized exchange or PTS with minority broker ownership will be concerned first and foremost with ensuring the satisfaction of those with the ultimate power to direct order flow to its trading system. This will frequently be the actual investor (generally institutional), rather than a broker which may or may not act as a conduit between the investor and the system.

Are Demutualized Exchanges More Likely to Take Excessive Financial Risks?

The IOSCO Technical Committee (2001) expresses concern that "The profit-seeking actions of a demutualized exchange may provide further encouragement to enter businesses other than those directly ancillary to its traditional trade execution functions" (p14). This, it suggests, entails new financial risks for the exchange that may merit regulatory intervention, such as the imposition of "firewalls to protect the resources necessary to run the exchange's core activities" (p14). As a matter of logic and actual market behavior, these concerns would appear to be misplaced.

First, mutualized stock exchanges, both for-profit and not-for-profit, have displayed a more than healthy appetite for expansion of their activities, whether that include buying CSDs (eg, Deutsche Börse pre-IPO), investing in international joint ventures (eg, the Swiss Exchange), buying derivatives exchanges (eg, Paris Bourse pre-IPO), or buying other domestic and foreign exchanges (eg, Nasdaq). Bull markets tend to increase exchanges' cash surpluses, inciting those

not explicitly disciplined by the exigencies of share price maximization to pursue outlets for business expansion. Deutsche Börse actually appears to be operating a far more disciplined, targeted and incremental approach to business expansion since its IPO in 2001.

Second, demutualized exchanges do not appear to exhibit a greater propensity to invest in ancillary services than mutualized exchanges. The FIBV (1999) survey found that self-declared demutualized exchanges reported generating 29.4% of revenue from “services” (membership, clearing, settlement, depository, and data dissemination), compared with 27.5% for mutual associations and 32.2% for limited companies owned by the members. However, demutualized exchanges generated about twice as much of their service income from market data dissemination (60%) than did traditional exchanges. The latter were more reliant on membership fees – not surprisingly, as demutualized exchanges tend to be have more competition for their members’ order flow.

If one accepts that demutualized exchanges are not more likely than mutuals to engage in risky business expansion, then there would appear to be less reason for concern about their investments. This is because their investments have been far more profitable. The FIBV reported a 45% return on capital for demutualized exchanges in 1999, compared with 12% for mutuals and 9.6% for limited companies. Yet if regulators still fear excessive risk-taking by exchanges, mutualized or demutualized, they can impose capital requirements, as they do with banks, to reduce the probability of insolvency.

Problems with Devolving Regulatory Responsibilities to Exchanges

Regulators have been seduced by the familiar. The belief appears widespread among regulators that the traditional mutual structure of the exchanges they regulate - exchanges which often pre-date by centuries any formal self-regulatory obligations imposed on them - is somehow more consistent with devolved self-regulatory obligations than a demutualized structure. There are no

grounds for believing this. As we have discussed, mutualized exchanges appear no less prone to malpractice or commercial risk-taking, nor is there any logical reason why they should be.

This does not mean that regulators do not need to revisit the self-regulatory obligations they impose on exchanges. On the contrary, the inevitability of increased inter-exchange competition, particularly from abroad, will only serve to intensify the conflicts which have always existed between the commercial interests of both exchange members and owners, on the one hand, and self-regulatory obligations on the other. The more such conflicts exist, the worse one can expect the exchange to be able both to compete *and* to regulate effectively.

There are certain regulations common to most developed markets which require at least the active cooperation of exchanges in order to enforce. The clearest one is perhaps restrictions on insider trading. At the very least, regulators will require an accurate and comprehensive audit trail of transactions in order to identify suspect trading activity. But insider trading regulation simply cannot be wholly “privatized,” since it is highly unlikely that any exchange would find that its regulator’s definition of insider trading is consistent with that which it would apply if its goal were merely to maximize transaction revenues. Consider Macey’s observations on US insider trading regulation, as practiced by the SEC:

The regulation of insider trading cannot be justified on the grounds that it promotes the goals of efficiency, fairness, or market integrity. As the Supreme Court recognized in *Chiarella* and *Dirks*, the only conceivable justification for banning insider trading is that such trading involves the theft of valuable corporate property from its rightful owner. The attempts to justify insider trading regulation on other grounds simply reflect efforts by a farrago of special interest groups to obtain private advantage through the regulatory and legislative process (1991:67).

Macey's views are obviously not universally shared, but the sheer diversity of views on the appropriate definition and effects of insider trading only goes to highlight the reason why it cannot be privatized: there is no compelling evidence that what the SEC, for example, chooses to define as insider trading has a negative effect on market efficiency or turnover. Indeed, it is more than plausible that market efficiency and turnover would be higher without the SEC's restrictions. An exchange is exceedingly unlikely, therefore, to adopt the SEC's highly idiosyncratic insider trading policy on its own volition. The best that the SEC can hope to accomplish is that the exchange will cooperate effectively in maintaining audit trails and reporting activity which the SEC, for good reasons or bad, does not like. The broad implication is that self-regulation is only effective as a *substitute* for statutory regulation where its objective happens to be consistent with the exchange's commercial interests - in which case, of course, it is unnecessary to impose it. This has been a dominant theme of this paper.

A further cost of devolving regulation down to officially designated national exchanges is implicit in the risk of stifling competition. So-called "Electronic Communications Networks" (ECNs) operating in the US Nasdaq market have often complained that the regulatory fees they pay to the National Association of Securities Dealers (NASD) are effectively used to subsidize the Nasdaq trading system, of which the NASD is the dominant owner and which competes with ECN services. Self-regulatory obligations must not be devolved such that an incumbent market operator is effectively given regulatory control over its competitors, or potential competitors. The UK government acknowledged this when it removed from the London Stock Exchange its designation as the primary UK listing authority, transferring that power up to the Financial Services Authority.

Conclusions

The inexorable trend towards securities exchanges operated as for-profit public companies with non-member ownership is a direct product of the automation of trading systems. Much deeper changes in the industrial structure of the securities trading business are on the horizon. As the traditional role of the broker as conduit between investor and exchange is increasingly rendered obsolete by electronic communications technology, the trading function will become increasingly disintermediated. Cross-border exchange and CSD consolidation will be driven by the competitive need to exploit massive economies of scale and network effects in trading, and regulatory arbitrage will increasingly determine the legal domicile of the resulting entities. Whereas regulators are becoming increasingly comfortable with the notion that exchange ownership and governance reforms can be conducive to greater capital market efficiency, there remains deep skepticism about the ability of these new commercial exchange entities to carry out self-regulatory responsibilities. These concerns are misplaced on at least three major counts.

First, much of what is currently classified by government regulators as a self-regulatory obligation of an exchange is actually wholly consistent with profit-maximizing behavior, and does not, therefore, need to be imposed upon exchanges in order to ensure protection of the public interest. One example which we described at length is the formal “listing” of securities. The problem is not merely that such obligations are redundant, but that they can function as a barrier to entry for potential competitor trading systems. Article 1.13 of the EU’s Investment Services Directive, for example, appears to indicate that an exchange is only entitled to a “single passport” to provide services outside its home market if it meets the requirements of the Listing Particulars Directive.¹³ This would mean that exchanges which trade stocks listed elsewhere may be denied the right to compete in certain EU national markets. There is no public interest being served by obliging exchanges to implement redundant listing services.

Secondly, demutualized exchanges actually have *fewer* endemic conflicts of interest with investors and issuers than mutualized exchanges, thus lessening the need for regulatory interventions to mitigate the effects of such conflicts. This is because demutualized exchanges are not wholly owned by broker-dealers, which have a clear incentive to design the trading architecture to maximize their own trading profits. This incentive structure has the effect of lowering investor returns and raising capital costs to listed companies. The SEC is highly dependent on “public directors” to mitigate the inherent conflicts of interest between the broker-owned NYSE and the trading public, but it is dangerously naïve to believe that such directors can be independent of the members’ interests when they are nominated by an NYSE nominating committee and then elected by the membership.¹⁴ If, on the other hand, an exchange is organized as a normal public company with a diversified shareholder base, or at least primarily owned by entities independent of brokerage firms, the board is much less likely to pursue the interests of brokers at the expense of investors and listed companies.

Thirdly, regulators must accept that some regulatory responsibilities simply cannot be privatized. Whoever owns an exchange is primarily interested in the financial gains such ownership affords, as with any other private business. A mutualized exchange is no exception. We discussed the example of insider trading, but there are many, much narrower, areas where governments routinely implement exchange regulations and then inappropriately leave private vested interests to implement and enforce them. One example in the US is the operation of the Intermarket Trading System (ITS), an electronic network linking the US exchanges that was imposed by the SEC a quarter-century ago. When a new electronic exchange system appeared on the scenes in 1998 – OptiMark, operated by the Pacific Stock Exchange – an SEC official obliged the company to negotiate its terms of access to the ITS with the New York Stock Exchange, its most powerful competitor. These costly and time-consuming negotiations resulted in what

¹³ See Steil (1996).

OptiMark and its lawyers believed, not surprisingly, to be terms unduly favorable to the NYSE; terms which almost certainly contributed to OptiMark's quick demise.

A significant by-product of the current wave of exchange ownership and governance reforms may well be much greater clarity in the formulation and allocation of regulatory responsibilities in the securities trading industry. If that is the case, exchange demutualization will make a significant contribution both to the efficiency and integrity of our securities markets.

¹⁴ See Oesterle (2000).

Table 1: Exchange Demutualizations

<i>Exchange</i>	<i>Year of Demutualization</i>
-----------------	--------------------------------

Demutualized Exchanges

Stockholm Stock Exchange	1993
Tradepoint / virt-x (never mutualized)	1995
Helsinki Stock Exchange	1995
Copenhagen Stock Exchange	1996
Amsterdam Exchanges	1997
Borsa Italiana	1997
Australian Stock Exchange	1998
Iceland Stock Exchange	1999
Athens Stock Exchange	1999
Stock Exchange of Singapore	1999
SIMEX	1999
LIFFE	1999
Toronto Stock Exchange	2000
Sydney Futures Exchange	2000
New York Mercantile Exchange	2000
Hong Kong Stock Exchange	2000
London Stock Exchange	2000
Deutsche Börse	2001
Oslo Exchanges	2001
Euronext	2001

Agreements or board proposals for demutualizations and public offerings

Chicago Board Options Exchange

Chicago Board of Trade

Chicago Mercantile Exchange

International Petroleum Exchange

London Metal Exchange

Nasdaq

New Zealand Stock Exchange

Nymex

Tokyo Stock Exchange

References

Banner, Stuart, *Anglo American Securities Regulation: Cultural and Political Roots, 1690-1860*, Cambridge, UK: Cambridge University Press, 1998.

bta Consulting, "Demutualisation Survey", February 2001.

FIBV, Cost and Revenue Survey, 1999.

Di Noia, Carmine, "Customer-Controlled Firms: the Case of Financial Exchanges," in Ferrarini, G., K. Hopt and E. Wymeersch (eds.), *Capital Markets in the Age of the Euro*, London: Kluwer, 2001.

Domowitz, Ian, and Benn Steil, "Innovation in Equity Trading Systems: the Impact on Trading Costs and the Cost of Equity Capital", in Steil, Benn, David G. Victor, and Richard R. Nelson (eds.), *Technological Innovation and Economic Performance*, Princeton: Princeton University Press, 2002.

Financial Times, "Fresh questions over NYSE trade practices," February 20, 2001.

Hart, Oliver, and John Moore, "The Governance of Exchanges: Members' Cooperatives Versus Outside Ownership," *Oxford Review of Economic Policy* 12:4, 1996.

IOSCO Technical Committee, "Issues Paper on Exchange Demutualization," June 2001.

Karmel, Roberta, "Demutualization – Implications for the Regulation and Governance of Securities Exchanges," paper presented at the 25th IOSCO Annual Conference, 2000.

Macey, Jonathan, *Insider Trading*, Washington DC: American Enterprise Institute, 1991.

Oesterle, Dale Arthur, "Securities Markets Regulation: Time to Move to a Market-Based Approach," *Policy Analysis*, CATO Institute, June 21, 2000.

Pirrong, Craig, "A Theory of Financial Exchange Organization," *Journal of Law & Economics* XLIII, October 2000.

Steil, Benn, "The ISD and the Regulation of European Market Structure," in Steil, Benn (ed.), *The European Equity Markets*, London: European Capital Markets Institute and the Royal Institute of International Affairs, 1996.

Wall Street Journal, "New Issues Arise in NYSE Trading Controversy," February 20, 2001.