Written Testimony Submitted by Professor Allen Ferrell
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"A Global View: Examining Cross-Border Exchange Mergers"
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Mr. Chairman and distinguished members of the Committee, thank you very much for inviting me to testify today. I would like to begin my testimony by discussing what I consider to be one of the most important changes exchanges have undergone in the last fifteen years: demutualization. I would then like to tie the general phenomenon of demutualization to cross-border exchange mergers and the various regulatory issues that the U.S. and other countries face as a result of these cross-border exchange mergers.[1]

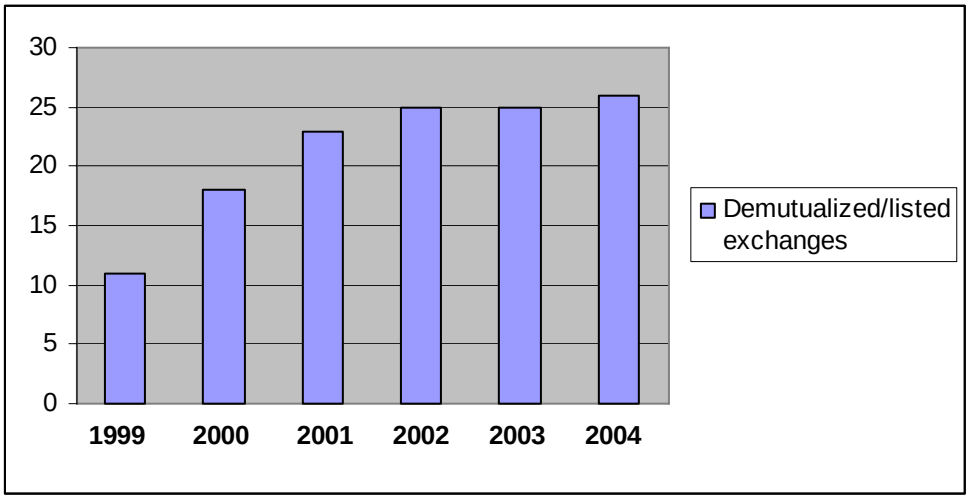
I. DEMUTUALIZATION OF EXCHANGES

There has been a dramatic change in the organizational structure of exchanges over the course of the last fifteen years as they have converted into "for-profit" entities, and this has often been accompanied by a public listing of shares on the exchange itself

[1] In preparing this testimony, I have partially relied upon earlier papers I have written on the topic: U.S. Securities Regulation in a World of Global Exchanges, EUROMONEY (2007) (with Reena Aggrawal and Jonathan Katz); and Allen Ferrell, Demutualization and Exchange Owners' Incentives.

and the cross-border merger of exchanges. Demutualization involves moving from a membership-owned, typically non-profit, organization to a for-profit exchange owned not necessarily by its membership (i.e. those with trading rights on the exchange) but by those that own shares in the exchange.

In 1993, the Stockholm Stock Exchange became the first exchange to demutualize. It was followed by a wave of other exchanges, including the Helsinki Stock Exchange in 1995, the National Stock Exchange of India (created as a demutualized exchange in 1995), the Copenhagen Exchange in 1996, the Amsterdam Exchange in 1997, the Australian Exchange in 1998, the Toronto, Hong Kong, and London Stock Exchanges in 2000, Nasdaq in 2000, the Bombay Stock Exchange in 2005 and the New York Stock Exchange (NYSE) in 2006. The stock exchanges of Brazil, Sri Lanka, Pakistan, Philippines, and South Africa have announced plans to demutualize and list their shares. At the same time, the largest derivative exchanges such as the Chicago Mercantile Exchange, the London International Financial Futures and Options Exchange (LIFFE), the Chicago Board of Trade, and Eurex are either already publicly listed or are part of publicly listed parent companies—and others, including the New York Mercantile Exchange (NYMEX) in 2006 have demutualized and went public. The clear trend towards exchange demutualization and listing can be seen in the following graph, based on the World Federation of Exchanges' 2001-2006 annual surveys of its membership, charting the number of demutualized and listed exchanges.



The NASD restructured Nasdaq in 2000 by conducting a private placement and issuing warrants. On July 1, 2002 shares of Nasdaq started trading on the over-the-counter Bulletin Board and eventually migrated to the Nasdaq Stock Market in February 2005 after issuing shares in a secondary offering. Nasdaq acquired the BRUT ECN in 2004 and in 2005 acquired the INET ECN (owned by Instinet) for $935 million. Nasdaq expects savings of $100 million per year from synergies in technology, clearing, corporate overhead and market data products. Both Nasdaq and NYSE plan to enter the options business and increase the scope of the products that trade on their markets.

Regional exchanges such as the Boston Stock Exchange and the Philadelphia Stock Exchange are also transforming themselves by launching new trading platforms and forming joint ventures/strategic alliances with large firms such as Citigroup, Credit Suisse First Boston, Fidelity, Citigroup, Morgan Stanley and UBS. This trend is likely to continue in the future.

II. TECHNOLOGICAL CHANGE IS THE DRIVER

This powerful global trend towards exchange demutualization – as well as other global trends in the capital markets such as cross-border exchange mergers, the rise of hedge funds, and the increasing importance of cross-border stock trading – are all, to a significant extent, a function of the dramatic reduction in computing and telecommunications costs in the 1980s and 1990s. Technological change has increased competition and forced exchanges around the world to adopt.

More specifically, the reduction in computing and telecommunication costs have reduced the once sizable fixed (and usually sunk) costs associated with establishing trading venues offering execution services that are needed to compete with incumbent exchanges. Moreover, these cost reductions have also substantially reduced the cost of sophisticated automated routing systems (such as the LavaTrading system), which are capable of routing orders to the lowest-cost trading venue regardless of whether that trading venue is the incumbent exchange or not. It is worth emphasizing that the increased competition in the market for execution services generated by these cost reductions has not been confined to developed markets. One study has found that a number of exchanges in developing countries have lost more than half their order flow to foreign exchanges.[2]

Numerous examples of increased order flow competition faced by exchanges can be given. One of the most dramatic and earliest examples was the London Stock Exchange's (LSE) introduction in 1985 of the SEAQi electronic trading venue, which directly competed for order flow in securities traded on the Stockholm and Amsterdam

[2] Claessens, Stijn & Klingebiel, Daniela & Schmukler, Sergio, 2002. "Explaining the Migration of Stocks from Exchanges in Emerging Economies to International Centres" CEPR Discussion Papers 3301.

stock exchanges. More recently, the LSE last year launched a new electronic market, called EuroSETS, in an attempt to attract order flow in Dutch stocks, which currently trade on the Euronext market. The LSE, as part of the launch, gave (for a limited time period) free exchange memberships. The LSE claims that transaction costs on this new platform are twenty percent lower than that of Euronext. Euronext, in turn, has started trading FTSE-100 stocks, which have traditionally traded on the LSE.

Another prominent, and very recent, example of increased cross-border order flow competition is Project Turquoise, a market set up by seven investment banks to compete with LSE. The seven banks are Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, Merrill Lynch, Morgan Stanley and UBS which collectively control a significant amount of investor order flow. They claim that this market will provide a lower-cost alternative to LSE and, in particular, be well-positioned to fill large orders for banks. There are recent reports that Societe Generale and BNP Paribas might be joining Project Turquoise. Project Turquoise will apparently contain both a public and non-public limit order book.

Foreign exchanges are not alone in facing increasing competition for listings and order flow. Exchange-listed stocks trade in overseas markets as well as in the United States. U.S. exchanges face competition not only for investor order flow in publicly traded stocks, but also for listings. And this competition is not solely from foreign exchanges, like London's AIM market, that have received so much attention in the press. Just last month, Goldman Sachs helped underwrite the private, non-registered sale of 15% of hedge fund manager Oaktree Capital Management for $880 million to approximately 50 large institutional investors. Shares in Oaktree Capital Management

can be brought and sold by large institutional investors on the new Goldman Sachs Tradable Unregistered Equity System (GSTRue). Tellingly, public equity offerings on the three largest stock exchanges – the New York Stock Exchange, Nasdaq and the American Stock Exchange – raised $154 billion last year compared to the $162 billion raised in the U.S. in private placements. Of course, the ultimate success of private trading systems like GSTRue will depend on a number of factors, such as the liquidity of shares traded on it, and the cost of ensuring that there are no more than 500 shareholders of any company traded on GSTRue. If the 500 shareholder threshold is crossed, then the company will likely have to register pursuant to the Exchange Act of 1934. Registration would trigger the requirement to periodically file the full panoply of Exchange Act reports, such as the 10-K, 10-Q and 8-K, as well as the requirements of Sarbanes-Oxley.

Also promoting competition and reducing costs were significant regulatory initiatives that reduced or eliminated the self-regulatory obligations of new competitors (Reg ATS for electronic trading networks (ECNs) in the U.S.) or permitted greater regulatory flexibility in accepting listings. Regulations, such as Reg. 144A and Reg. S in the U.S., enabled institutional investors to invest globally and in unlisted securities and made it easier for U.S. companies to offer securities globally. Under Regulation ATS, alternative trading systems (ATSs) had the option to register as an exchange or as a broker-dealer.[3] Registration as a broker-dealer eliminated the statutory obligation to become a self-regulatory organization, with the attendant cost burden. In the new environment, ATSs formed alliances with exchanges in order to combine the regulatory status of the exchange with the trading platforms of ECNs. The ECN benefited as it did not have to build regulatory costs into its business model and the exchange benefited

[3] See US SEC Regulation ATS, 17 CFR 242.300, *et seq.*

from the transaction and market data fee revenues generated by the ATSs. ECNs started executing and reporting trades through particular exchanges and sharing in data revenues. The interest of the traditional exchanges in the U.S. in establishing such alliances or outright mergers with ECNs has only increased as a result of Regulation NMS, which confers a regulatory benefit on exchanges that have automated access to their quotations. Paradoxically, some ECNs claim that Reg. NMS, and the SEC's previous order handling rules, has adversely affected their business model by requiring them to provide non-members with access to its quotes.

The response of incumbent exchanges around the world to increased competition has been, as discussed earlier, to demutualize so that exchanges are no longer owned by its members but rather by shareholders in a for-profit entity. Instead of each member having one vote, regardless of its size or the amount of order flow it routes to the exchange, a demutualized exchange has shareholders with one vote per share. This means that, in contrast to the consensus-based decision-making process that has historically characterized many mutual exchanges, decisions in demutualized exchanges are made by majority vote of shareholders just as with any other for-profit, shareholder-owned firm. Given the fact that ownership is legally distinct from trading rights in a demutualized exchange, even though some parties might happen to have both trading and ownership rights, a demutualized exchange is almost always a for-profit organization. The ability to earn a return on shares in the form of dividends or capital appreciation substitutes for the ability of members to earn a return by virtue of having trading rights on the exchange.

A demutualized exchange has a significantly enhanced ability to adopt low-cost execution facilities that are increasingly necessary to compete effectively against other low-cost trading venues. The old membership, which often has powerful vested interests in maintaining the existing trading rules and trading infrastructure even when this did not constitute the lowest-cost to traders, were in effect brought out in the form of share allocations in the demutualization process. Each Toronto Stock Exchange member, for example, received 20 common shares in the exchange in the exchange demutualization. It is typically the smaller members, such as floor brokers on the NYSE or the *hoekman* (specialists) on the Amsterdam Stock Market, which have resisted demutualization as they had the most to lose from a move to a more efficient, competitive trading structure which typically involves far more disintermediation and automation. Tellingly, new trading venues are almost entirely automated with less in the way of intermediation except for block trades and illiquid securities.

Tellingly, the execution facility that has often been adopted by demutualized exchanges (or are newly-created exchanges that were never mutual organizations to begin with) is an electronic limit order market, with time and price priority except for block traders, along with access to the execution facilities open to a wide range of participants. Direct access to the limit order book is typically extended to foreign traders via electronic linkages. The Paris Stock Exchange, which has had substantial success selling its trading system to other trading venues, and the Scandinavian stock exchanges are, for example, electronic limit order markets. Immediately after its demutualization in 1993, the Stockholm Stock Exchange allowed remote membership with direct unmediated access to the exchange. A recent cross-country empirical study has documented that the adoption

of electronic trading is often associated with a substantial increase in the efficiency of the trading process.[4] On a related note, Domowitz and Steil (2001) estimate that the adoption of a non-intermediated trading structure would result in execution costs up to a full third less than those that currently prevail on some of the incumbent exchanges.[5] In fairness, the efficiency of incumbent exchanges' trading systems has improved since the time of this study.

A demutualized exchange not only has an enhanced ability to adopt low-cost electronic trading facilities. Having publicly-traded shares associated with ownership enhances the ability of these exchanges to engage in cross-border mergers. Demutualized exchanges can engage in mergers just as other for-profit, publicly-traded companies do. Not surprisingly, one often observes cross-border mergers in the immediate aftermath of demutualization.

Advances in technology have also increased the ability of exchanges to offer specialized services to investors with special execution needs. As different members of an exchange begin to serve different clienteles, the potential divergence of interests between members of an exchange grows. This is a factor favoring demutualization. Reaching agreement among the members of an exchange as to what specific form a new competitive trading structure should take, as opposed to transferring that decision to a new set of owners through demutualization, is likely to be particularly difficult given wide differences in the types and size of rents that are being extracted by different members (floor brokers, specialists, large versus small broker-dealer firms, institutional versus retail traders) and severe informational asymmetry as to what these rents actually

[4] Jain, P., Financial Market Design and the Equity Premium, Journal of Finance 60 (6): 2955.
[5] Domowitz and Steil, Automation, trading costs, and the structure of the securities trading industry (2001)

are and how they would change under different possible trading structures. Consistent with this explanation, empirical studies have found that bargaining tends to breakdown as informational asymmetry among bargaining parties increases despite there being large efficiency gains to be had. Also consistent with this is the observation that consumer cooperatives tend to only work when there is a high degree of homogeneity of interests among the consumer-owners. As consumers' interests diverge, the decision-making process of a cooperative can become unmanageable.

III. REGULATION IN A WORLD OF DEMUTUALIZED EXCHANGES

The global movement of traditional stock exchanges to for-profit businesses has put pressure on the self-regulatory function of exchanges. A for-profit stock exchange, burdened with expensive regulatory duties (as a result of being a self-regulatory organization (SRO) under the Exchange Act), and competing with trading platforms that have lower regulatory burdens or no regulatory duties must grow its business to be successful. As with any business, profit growth may come from increased revenues or reduced costs. For a stock exchange, revenue growth must come from increased trading volume, by adding new listings or by acquiring other exchanges or trading platforms.[6] Cost reduction may come from a reduction in regulatory burdens or through economies of scale, such as the consolidation of separate market surveillance units and operating acquired trading platforms on existing surplus IT capacity. This emerging business dynamic may be driving a variety of fundamental changes in global regulation.

[6] The SEC concept release on self-regulation, identified several revenue sources for trading systems: Regulatory fees, Transaction fees, Listing Fees, Market Data fees and various minor miscellaneous fees.

There are concerns that this has placed undue strains on the regulatory structure. These issues have included the concern that trading might move to markets with lower regulatory requirements, the existence of inconsistent rules across markets, and that exchanges may reduce the rigor of their regulatory oversight in order to gain market share. There is also the concern that exchanges may be "too soft in regulating themselves and too severe in regulating competitors."[7] For example, the SEC in its concept release, and in an earlier concept release, discussed the possibility of regulatory arbitrage, whereby, for example, an exchange might reduce its market surveillance function to attract trading volume, or lower listing requirements to attract companies.

Policymakers have long looked to a strong corporate governance structure to balance the inherent conflicts within an SRO. In the U.S., Congress specified in the 1934 Act that a registered exchange "assure a fair representation of its members in the selection of its directors and … provide that one or more directors shall be representative of issuers and investors and not be associated with a member of the exchange, broker or dealer."[8] The recent attention to SRO governance as a response to changes in exchange structure, market competition, weaknesses in SRO regulatory programs and the most recent cycle of scandals continues this tradition. In 2003, William Donaldson, the Chairman of the SEC (and formerly a President of the New York Stock Exchange) noted that the SROs "play a critical role in our securities markets as standard setters for listed companies, operators of trading markets, and front-line regulators of securities markets" and asked the SROs to review their own governance practices.[9] This review made sense

[7] Fleckner, Andreas M., "Stock Exchanges at the Crossroads" . Fordham Law Review, Vol. 74, p. 2541-2620, 2006 Available at SSRN: http://ssrn.com/abstract=836464
[8] 17 USC 78(f)(b)(3)
[9] SEC File No. S7-39-04.

particularly in a period when the exchanges were requiring enhanced governance standards of firms listed on the exchange.

Because regulators and market participants have been concerned by the actual or perceived conflicts of interest and the possibility that SROs might put their commercial interests ahead of their regulatory responsibilities, they have insisted upon structural change and governance changes as a condition to becoming a for-profit exchange.[10] In the U.S., the two primary exchanges the NYSE and NASDAQ have both adopted structures in which the self-regulatory functions are in separate subsidiaries, with separate boards (much of these self-regulatory functions of NASD and NYSE are now being merged). Limits on member ownership have been adopted and procedures for dealing with exchange "self-listings" have been put into place.

At the NYSE, the board is now comprised exclusively of independent directors. A separate advisory board of industry representatives has been created to periodically meet with the Board to ensure sufficient industry input into exchange policy. But this advisory board has no voting authority and the actual board is required to meet periodically without participation from the advisory board. While the NASD structure does not require an exclusively independent board, it is required that the number of non-

[10] These issues have been discussed in several papers including: Reena Aggarwal, *Demutualization and Corporate Governance of Stock Exchanges*, 5 J. Applied Corp. Fin. 105 (2002); Andres M. Fleckner, *Stock Exchanges at the Crossroads*, Fordham Law Review, Vol. 74, p. 2541-2620, 2006, Roberta S. Karmel, *Turning Seats into shares:Causes and Implications of Demutualization of Stock and Futures Exchanges*, 53 Hastings L.J. 367 (2002) Amir N. Licht, *Stock Exchange Mobility, Unilateral Recognition, and the Privatization of Securities Regulation*, 41 Va. J. Int'l L. 583 (2001); Benn Steil, *Changes in the Ownership and Governance of Securities Exchanges: Causes and Consequences*, *in* Brookings-Wharton Papers on Financial Services.

industry directors equal or exceed the combined number of member-representation directors and industry directors.[11]

This conflict is evident in the demutualization process of several exchanges globally. For example, on November 1, 2001 the Tokyo Stock Exchange demutualized and changed its name to the Tokyo Stock Exchange, Inc. However, its planned listing has been postponed due to delays that are partially due to disagreements between the exchange and the Financial Services Agency (FSA) over the exchange's management structure as a listed entity. The regulator had demanded that the exchange separate its regulatory division from the stock trading-related division.

When the SEC issued a concept release in 2005 to discuss possible new approaches to self-regulation two of the four identified objectives pertained to SRO governance and the protection of funding for regulatory functions:

(1) the inherent conflicts of interest between SRO regulatory operations and members, market operations, issuers, and shareholders; …

(2) the funding SROs have available for regulatory operations and the manner in which SROs allocate revenue to regulatory operations.[12]

Listed-exchanges have higher governance standards than those applicable to listed companies on the exchange. This reflects the unusual combination of conflicting objectives of an exchange compared to an ordinary company. While an ordinary company has a legal responsibility only to its shareholders to make a profit, an exchange has a regulatory function, an obligation to member firms and to listed companies, as well as a duty to maximize profits and shareholder value. These responsibilities are

[11] SEC Release No 34-53128, January 13, 2006. Order Approving Application of the Nasdaq Stock Market LLC for Registration as a National Securities Exchange.
[12] http://www.sec.gov/rules/concept/34-50700.htm#III

compounded by the higher standards for public companies' boards adopted following enactment of Sarbanes-Oxley. Under the new regulations adopted in 2003, all listed companies must have a board that is composed of majority independent directors. This is applicable to exchanges also. In addition key board committees, including the nominating, audit and regulatory oversight committees, must be composed solely of independent directors.

Other exchanges around the world have also adopted, often in response to exchange demutualization, governance requirements focused on board and committee structure. For instance, the Toronto Stock Exchange must have on its board of fifteen, seven directors who are independent directors. The Hong Kong Exchange board must have a majority of directors that are "public interest" directors.

Exchanges are also required to limit ownership and voting by broker-dealers. Historically exchanges were member-owned organizations but demutualization has raised the concern that a member's self-interest could compromise the self-regulatory function if a member controls a significant stake in its regulator. For example, an exchange might not diligently monitor a member's trading if the member is a controlling shareholder. The SEC has proposed that no one broker-dealer may own more than 20% in an exchange of which it is a member. Many exchanges around the world have ownership limits, often capping ownership by a single entity at 5%. For instance, the Singapore and Philippine Stock Exchange cap ownership by a single entity, absent a regulatory waiver, at 5%.

Listing of securities issued by an exchange or its affiliate on its own market creates new potential conflicts of interest. Conflicts regarding "self-listings" raise

concerns as to an exchange's ability to independently and effectively enforce its own or the Commission's rules against itself or an affiliated entity, and thus comply with its statutory obligations. If the security of the exchange or its affiliate is not in full compliance with the rules of the exchange there might be the possibility that such issues would be ignored. Securities of competitors might be listed, and therefore regulated, by the exchange that might also cause conflicts of interest. In the United States, under listing rules, the securities of exchanges and affiliates can trade and hence self-listings are allowed. However, the SEC has put additional safeguards in place in the form of proposed Regulation AL. The exchange's Regulatory Oversight Committee must certify that the securities satisfy the SRO's listing criteria before the securities can be listed. The exchange is also required to file a quarterly report with the SEC summarizing monitoring of the affiliated security's compliance with listing rules and surveillance of trading. This report must be approved by the Regulatory Oversight Committee. In addition, an annual report prepared by a third party will need to be filed.[13]

Many countries, concerned with potential conflicts of interest, require that self-listed exchanges be supervised by a governmental regulatory rather than by the exchange itself. This is true, for example, of the Australian Stock Exchange, the Hong Kong Stock Exchange, the Singapore Exchange and the Stockholm Stock Exchange.

IV. SOME OBSERVATIONS ON MUTUAL RECOGNITION

A topic that has received a substantial amount of attention is the issue of "mutual recognition." Simply put, the question is this: When should the SEC deem a foreign

[13] For details see, http://www.sec.gov/rules/proposed/34-50699.htm

country's regulatory regime to be sufficiently comparable to that of the U.S. to permit exchanges and broker-dealers in that country to directly access U.S. investors without registering with the SEC or complying with other legal requirements that domestic U.S. entities must? This question is a pressing one due to the rise of cross-border trading and cross-border exchange mergers.

My modest goal in this section is to briefly make three observations that, in my opinion, should inform the SEC's decision as to whether to recognize a foreign regime as sufficiently comparable to merit mutual recognition.

(1) Perhaps most importantly, in assessing comparability, one should not confine one's attention solely to the foreign country's statutes and legal rules or the enforcement powers of its securities regulators. For many foreign markets, there is a large amount of capital market data that can speak to such issues as the level of disclosure or the level of insider trading. For example, it would be a useful exercise to analyze the bid-ask spreads, and the informational asymmetry component of the bid-ask spread, in assessing the quality of a country's disclosure regime. This is just but one example. Other indicators of market quality, such as liquidity measures or measures of earnings opaqueness, can and should also be utilized.

(2) In assessing comparability, it should be borne in mind that a foreign country's legal regime can differ from that of the U.S. regime for entirely legitimate reasons. For example, countries in Continental Europe and Asia (Australia aside) have concentrated ownership of firms. The U.S., Australia, and U.K. have dispersed ownership of firms. The conflicts of interest that

arise as a result of concentrated ownership, such as majority-minority shareholder conflicts, are different than those that result from dispersed ownership, such as that between management and dispersed owners, which can legitimately call for different regulatory responses.

(3) Finally, mutual recognition is not an all or nothing concept. Perhaps the most feasible way of proceeding would be to limit mutual recognition, at least initially, both in terms of types of foreign companies and types of U.S. investors who would have direct access. For instance, a foreign regime could be granted mutual recognition with respect to its largest, most closely followed firms for purposes of providing direct access to U.S institutional investors.