For Whom the Bell Tolls: The Demise of Exchange Trading Floors and the Growth of ECNs

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I. INTRODUCTION

The colorful “open outcry” trading in the “pits” of the Chicago futures exchanges and the bell-ringing opening of trading on the floor of the New York Stock Exchange (NYSE) have long dominated the public perception of how those markets operate. Those exchanges are now in the midst of radical changes that will soon be erasing those images. Exchange trading floors are fast fading into history as the trading of stocks and derivative instruments moves to electronic communications networks (ECNs) that simply match trades by computers through algorithms.¹ Competition from ECNs has already forced the NYSE and the Chicago futures exchanges to demutualize, consolidate, and reduce the role of their trading floors, while expanding their own electronic execution facilities.²

The amazing growth of the ECNs and their displacement of the traditional exchanges have raised regulatory concerns. The Commodity Futures Trading Commission (CFTC) and the Securities and Exchange Commission (SEC) have been struggling with that issue for nearly a decade. The SEC’s burdensome regulations are driving capital away from public markets such as the NYSE and Nasdaq and into ECNs, which are more lightly regulated. Many public companies are also opting out of the public markets by going private; institutional trading markets in unregistered securities are growing; and foreign issuers are rethinking the value of listing in regulated U.S. markets. The ECNs are also encouraging U.S. investors to invest abroad. As a result, the SEC and the CFTC are experiencing the effects of regulatory arbitrage as issuers and market participants flee the excessive regulation imposed in domestic markets.

The CFTC initially tried to prevent virtually all non-exchange trading of derivatives. It then did a volte-face and decided against regulating ECNs that provide execution services only to institutional investors. The CFTC believed those entities had the wherewithal and were sophisticated enough to protect themselves. However, as the result of a number of problems in the energy markets, the CFTC is reversing course once again and is now seeking to regulate those institutional markets in much the same way that it regulates exchanges that service retail investors.

This Article will describe the growth of the securities and commodity exchanges in the United States. It will show how their traditional trading floors became the center of market activity well into the last century, a dominance which was aided in no small measure by the monopoly positions allowed them by their regulators. The Article will trace the growth of electronic competition that undermined those monopolies and will describe the responses of the exchanges to those upstarts. The Article will then describe the regulatory challenges that these electronic markets are facing in an increasingly global economy and the responses of the CFTC and SEC to these developments.  

II. Exchange Trading—Some History

A. Development of Stock Exchange Trading in the United States

Trading in stocks and commodities was first conducted in America through auctions that were the favored means for pricing goods of all descriptions in the colonial era. Securities transactions were occurring in New York as early as 1725 at a commodity and slave auction house on Wall Street. However, there were few securities to trade, other than a limited number of bills issued by colonial governments. That situation changed after the success of the Revolution led to the issuance of tradable government obligations.

Karmel, supra note 2, at 368.

4. This process seems to have begun with the auctioning of ship cargoes upon their arrival in the colonial ports. The arrival of those cargoes was often announced in the newspapers by advertisements that listed the goods to be sold. The following is an example of one such advertisement:

   Just Imported in the Mary and Elizabeth, Capt. Sparks, from in the Polly and Hannah from Hull and in the last vessels from Liverpool and Bristol, and to be sold by RANDLE MITCHELL, At his Store in Water-st[reet], near Walnut-st[reet], on the [best] . . . terms, for cash, short or long cret[ic], as may best suit the purchasers, A General Assotment [sic] of FALL GOODS in which are Corse [sic] Wollens [sic] and Blankes [sic] or all kinds, coarse and middling, Broadcloths, Stuffs, Hosiery, Haberdaffery [sic], Cultlery [sic], Nails, Steel, Shot, and Gun-powder, Frying-pans, Pewter, Window-glass, Madder-Mace, Cinnamon, Cloves, Nutmegs, Pepper, &c.

   PA. PACKET AND THE GENERAL ADVERTISER, Jan. 11, 1773. The auction system for consumer goods is by no means dead in America. eBay is still proving its worth.

5. GEORGE L. LEFFLER, THE STOCK MARKET 77 (1951). “Stock” in the form of government bills was also being traded in Philadelphia as early as 1754, but it was not until after the Revolution that the market became active. PETER WYCKOFF, WALL STREET AND THE STOCK MARKETS: A CHRONOLOGY (1644-1971) 4 (1973).

by the federal government, and a market in those bills soon developed. For example, in 1790, an auction was conducted at the Philadelphia Merchant’s and Exchange Coffee House for the sale of $30,000 in 6 percent “stock” of the United States.  

More formal organization arrived in that year with the creation of what is now the Philadelphia Stock Exchange by ten merchants calling themselves the Philadelphia “Board of Brokers.” They operated out of a coffee house and traded bank stocks and government securities. Within a year, express coaches were speeding to Philadelphia from New York bearing news from ships docking in the New York port that might affect security prices on the Philadelphia exchange.

In New York, coffee house merchants were also dealing in securities, mostly government obligations, after the Revolution. In 1791, daily auctions of government “stock” were being held on Wall Street under a set of rules agreed to by the auctioneers. More formal trading arrangements developed after concern arose that the auctions had fueled the speculation that touched off a market panic. A meeting at Corre’s Hotel in March 1792 resulted in the so-called “Buttonwood Agreement” in which a group of traders agreed to fix their commissions on sales of public stock and to give preference to each other in their dealings. This was an effort to centralize and monopolize trading—the model for exchange trading that would dominate American trading markets until the

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8. Commodities had been traded out of the London Coffee House in Philadelphia since 1754. GILBERT W. COOKE, THE STOCK MARKETS 306, 313 (Simmons-Boardman Pub’g 1969). However, this was the first “stock” exchange in America. MARKHAM, COLUMBUS, supra note 6, at 93-94. Exchanges had been operating in Europe since the fifteenth century. The oldest of these exchanges, the Antwerp Borse, merged with the Brussels Exchange in 1997. Id. That exchange became a part of Euronext, which merged with the NYSE in 2006. Jenny Anderson & Heather Timmons, NYSE Group Reaches Deal To Acquire Euronext, N.Y. TIMES, June 2, 2006, at C3.
9. As the Philadelphia Stock Exchange has noted:

The speeding coaches that cluttered from New York to Philadelphia carried speculators and stock-jobbers, agents of foreign investors, and inside traders with privileged information that could move the market, and make their fortune at the expense of the Philadelphia merchants.

The coups scored by these early commuters led a group of Philadelphia brokers to set up signal stations on high points across New Jersey. The signalmen watched through telescopes as coded flashes of light brought news of stock prices, lottery numbers and other important information. Relyed from station to station, the information could move from New York to Philadelphia in as little as 10 minutes, more quickly than any coach horse could run, so the system sharply narrowed the advantage of New York speculators. It remained in use until the arrival of the telegraph in 1846.

PHILADELPHIA STOCK EXCHANGE, THE HISTORY OF THE PHILADELPHIA STOCK EXCHANGE 1, http://www.phlx.com/exchange/phlxhistory.pdf (last visited Oct. 18, 2007). These events evidenced the value given to the speed in which information is transmitted and presaged the interest that electronic trading would excite with quicker executions.

12. MARKHAM, COLUMBUS, supra note 6, at 110-18.
13. FRANCIS L. EAMES, THE NEW YORK STOCK EXCHANGE 13-14 (1894). Corre’s Hotel was a favorite venue for taking subscriptions for stock. 2 JOSEPH STANCLIFFE DAVIS, ESSAYS IN THE EARLY HISTORY OF AMERICAN CORPORATIONS 81-82 (1917).
The Buttonwood Agreement was the forerunner of the NYSE. That exchange was given a more formal structure in 1817 when the Buttonwood brokers sent a delegation to examine the constitution of the Philadelphia Stock Exchange. That document became a model for the NYSE (it was then called the New York Stock and Exchange Board). The NYSE was a “call” market where trading was conducted by rotation, which involved reading out the list of stocks trading on the exchange and requesting bids or offers. Members were assigned chairs (hence the reference to exchange “seats”) and were required to be present for each session.

The NYSE was not an immediate success. Average trading volume in 1821 was 300 shares, rising to 1,300 shares a day in 1824 and then declining to an average of 100 shares per day in 1827. However, by 1835, average daily trading volume was over 8,000 shares. The price of NYSE seats reached a high of $4,000 before falling to $500 in 1861. In order to restore the value of its seats, the NYSE then amended its constitution to prohibit its members from trading in listed securities outside the exchange’s trading room and continued to restrict the number of its seats.

The NYSE was already facing competition from the curb market (the precursor to Nasdaq) that was conducted on William Street in New York. Competition heightened with the outbreak of war from a number of new exchanges, including some rather shady operations like the “Coal Hole” and more serious operations like the Open Board of Stock Brokers that introduced the modern concept of continuous market-making that advent of the ECNs.


16. As one source notes, the redemption of the national debt by the federal government after the Revolution created a market in those securities:

The issuance of public stock as a result of this redemption created negotiable paper, and the auctioneers along Wall Street in New York began to hold daily sales. Independent agents began to appear and advertised themselves as ready to buy and sell the securities. The formation of the national bank and the issuance of stock supplied an additional medium for trading. By March 1792, a public “stock exchange” was organized with headquarters at No. 22 Wall Street. A rival organization met every day under a buttonwood tree in front of 68-70 Wall Street, an alliance which was the direct forerunner of the present New York Stock Exchange.

ROBERT IRVING WARSHOW, ALEXANDER HAMILTON: FIRST AMERICAN BUSINESS MAN 139 (Greenberg 1931). For more on these events, see MARKHAM, COLUMBUS, supra note 6, at 108-18.

17. JOHN R. DOS PASSOS, A TREATISE ON THE LAW OF STOCK-BROKERS AND STOCK-EXCHANGES 10 n.3 (1882); MEIKER, supra note 14, at 64.


19. BUCK, supra note 10, at 65.

20. On one day in 1827, only 14 shares were traded. MARKHAM, COLUMBUS, supra note 6, at 157.

21. BUCK, supra note 10, at 15.

22. MARKHAM, COLUMBUS, supra note 6, at 241.

23. Id.

24. Id. at 242. Exchanges were also operating outside New York in Philadelphia, Boston, Chicago, and San Francisco. Id. at 245. The NYSE sought to discourage the curb traders by denying them access to its quotations, but the curb traders secretly drilled a hole in a wall at the exchange so that they could listen to the trades on the NYSE floor. Banner, supra note 11, at 128; Robert Steiner, The Big Board’s Bicentennial, 200 Years Later, Small Investors Find Clout at America’s Premier Exchange, WALL ST. J., May 13, 1992, at C1.
would replace the rotation system theretofore employed by the NYSE. Several “evening” exchanges were also operating that traded after the NYSE closed for the day, foreshadowing the demand for 24-hour trading in the next century that paved the way for electronic trading systems. Technology also made inroads at the NYSE during the Civil War. The telegraph replaced the express companies as the means for communicating market information rapidly, and was in return replaced by the stock ticker and telephone by the end of the nineteenth century.

One other change occurred in that century that would complete the NYSE model that lasted throughout the next 100 years. This was the introduction of the “specialist” who makes a continuous “two-sided” market on the NYSE floor and holds the book of customer limit orders. This change was necessary in order to compete with the curb markets operating in the street outside the NYSE. The specialists first competed with each other in particular stocks, but over time a single specialist emerged to monopolize market making in each stock, allowing them to reap vast benefits from that powerful position until electronic trading arrived late in the last century.

25. Markham, Columbus, supra note 6, at 242. The NYSE merged with the Open Board of Stock Brokers and the Government Bond Department in 1869, doubling its membership. Id. at 288.
26. Id. at 243.
27. Id. at 245.
29. After the NYSE dropped its rotation system in 1871, dealers in particular stocks began staking out their own portions of the trading floor so that they could be easily located. Markham, Columbus, supra note 6, at 288-89.
30. SEC. & EXCH. COMM’N, REPORT ON THE FEASIBILITY AND ADVISABILITY OF THE COMPLETE SEGREGATION OF THE FUNCTIONS OF DEALER AND BROKER PURSUANT TO SECTION 11(e) OF THE SECURITIES EXCHANGE ACT OF 1934 25 n.41 (1936). The specialists’ operations were automated in the twentieth century but remained essentially the same. As described in one court opinion:

Each security listed for trading on the NYSE is assigned to a particular Firm. To execute purchases and sales of a particular security, buyers and sellers must present their bids to buy and offers to sell to the specific Specialist Firm assigned to that security. . . . By acting as either the agent for investors or principal for itself in the sale and purchase of the individual securities to which they are each assigned, the Firms are required to make and display continuous two-sided quotations that accurately reflect prevailing market conditions in order to maintain a liquid and continuous two-sided public auction.

In re NYSE Specialists Sec. Litig., 503 F.3d 89, 92 (2d Cir. 2007).
32. Bloomberg News, Trading-Floor Changes Hurt LaBranche, N.Y. Times, July 10, 2007, at C12. In exchange for its monopoly position, specialists were forced to assume certain obligations:

Specialists are required to maintain a fair and orderly market in the stocks assigned to them. They do this by maintaining two-sided quotes for the stocks in which they specialize. Specialists have an affirmative obligation to “deal . . . for [their] own account when lack of price continuity, lack of depth, or disparity between supply and demand exists or is reasonably to be anticipated.” To mitigate the conflicts that may arise when specialists deal for their own accounts while simultaneously holding broker orders, specialists are also subject to a “negative” obligation not to deal unless it is “reasonably calculated to contribute to the maintenance of price continuity with
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B. Development of Futures Trading on Exchange Floors

American futures exchanges trace their history to the development of centralized trading on the Chicago Board of Trade (CBOT) before the Civil War in standardized contracts calling for the delivery of grain in Chicago area warehouses. The standardization of the contract terms allowed them to be offset with other contracts, giving rise to a trading market that could be used for hedging and speculation. The clearinghouse was another important contribution to finance by the commodity exchanges. The clearinghouse acts as an intermediary in each futures transaction. The clearinghouse’s primary function is to guarantee the performance of all parties to a contract.

The primary purpose of the commodity exchanges in their infancy was to permit hedgers to purchase and sell cash commodities and offset risks associated with operating businesses in the underlying cash commodities, but speculators operated in the markets

reasonable depth, and to the minimizing of the effects of temporary disparity between supply and demand, immediate or reasonably to be anticipated.”

NYSE SPECIAL COMM. ON MKT. STRUCTURE, supra note 31, at 2-21; see also In re Specialists Sec. Litig., 503 F.3d at 91-95 (describing the role of specialists and abuses).

33. The standardized futures contract in use today was a product of the CBOT. JERRY W. MARKHAM, HISTORY OF COMMODITY FUTURES TRADING AND ITS REGULATION 4-5 (Praeger 1986) [hereinafter MARKHAM, FUTURES TRADING]. However, futures and other derivative contracts in one form or another have been traced back to 2000 B.C. FUTURES INDUS. ASS’N., AN INTRODUCTION TO THE FUTURES MARKET 2 (1984).

Commodity exchanges were operating in Greco-Roman times. See BD. OF TRADE OF THE CITY OF CHICAGO, COMMODITY TRADING MANUAL 1 (Patrick J. Catania ed., 9th ed. 1998). In Rome, over 1600 years ago:

one way for merchants to more efficiently spread information was to work physically near each other. Knowing each other, seeing each other each day, and gossiping together would undoubtedly increase the information flow between the merchants. The Piazzale delle Corporazioni was the primary physical institution for grain information exchange in Ostia. The building is decorated with mosaics, including many depicting grain ships.


34. This process is described in Merrill Lynch, Pierce, Fenner & Smith, Inc. v. Currans, 456 U.S. 353, 357-61 (1982). See also BD. OF TRADE OF THE CITY OF CHICAGO, supra note 33, at 5; HUGH ULRICH, THE PRACTICAL GRAIN ENCYCLOPEDIA 53 (1986) (defining “hedging” as the “true purpose for the existence of agricultural futures markets”). Unlike the securities markets, speculation is appreciated in the commodity markets as a source of liquidity and an aid to price discovery. This has not always been the case. In mid-sixteenth century England, for example, statutes prohibited food (grain) speculation as early as 1552. The statutory offenses were based on three common law violations: (1) forestalling—the purchase of grain outside of a market and a subsequent sale in the market; (2) regrating—the purchase and resale of grain in the same or nearby market; and (3) engrossing—the purchase of grain before harvest for the purpose of reselling after harvest. See STUART BANNER, ANGLO-AMERICAN SECURITIES REGULATION: CULTURAL AND POLITICAL ROOTS 1690-1860 15 (Cambridge 1998). “The law’s prohibition of food speculation thus rested on a solid base of popular disapproval.” Id. at 17. Popular belief held that “speculation raised prices, harmed the poor . . . exacerbated shortages . . . gave rise to deceit, and more subtly undermined the common good.” Id.

35. See Roberta Romano, A Thummbail Sketch of Derivative Securities and Their Regulation, 55 Md. L. REV. 1, 16-21 (1996) (detailing the process in which the clearinghouse guaranteed the performance of contracts).

36. A “hedger” is a market participant who establishes positions where such “positions normally represent a substitute for transactions to be made or positions to be taken at a later time in a physical marketing channel, and where they are economically appropriate to the reduction of risks in the conduct and management of a
as well. During these early stages, a contract’s success was based upon its ability to replicate trading in the spot market.37 Today, the success of a contract is largely dependent on its liquidity, i.e., the volume and open interest it attracts.38 These measures are proxies for the contract’s ability to accurately reflect cash market conditions.39 The ability of commodities markets to accurately reflect cash market conditions are limited by qualitative factors, like location, grade, or type,40 and quantitative factors, like deliverable supply, active and large commercial markets, and volume and open interest.41

In 1873, the CBOT adopted regular trading hours for futures transactions and declared that all transactions executed by its members after regular trading were unenforceable.42 This was an effort to confine futures trading to its trading floor. However, a competitor, the Chicago Open Board of Trade, allowed trading after hours and a curb market was operating.43 These alternate markets were often little more than gambling dens (“bucket shops”) that allowed speculators to bet on price changes reported by the CBOT.44 Several states passed laws prohibiting such operations,45 and the CBOT

See Ates and Wang, supra note 38, at 703 (identifying trading volume as “one of the common measures of market liquidity”).

See Raymond M. Leuthold et al., The Theory and Practice of Futures Markets 45 (1989) (explaining the three dimensions of “basis” as time, space, and quality).

See id. at 20 (listing common characteristics of traded contracts as: “(1) homogeneity of item, or at least not identified with a producer or manufacturer (i.e., fungible); (2) capable of description, including standardization and grading; (3) variable or uncertain prices; (4) active and large commercial markets; and (5) availability of public information”). The success of an entire exchange, however, would require more. See id. at 113 (suggesting that the “overall performance of futures markets” requires “assessing simultaneously the efficiency of the market to transfer risks, forward price, transmit information, and firms in obtaining capital, and allocate resources and inventory”).

Markham, Futures Trading, supra note 33, at 4.

Id.


an establishment, nominally for the transaction of a stock exchange business, or a business of similar character, but really for the registration of bets, or wagers, usually for small accounts, on the rise or fall of the prices of stocks, grain, oil, etc., there being no transfer or delivery of the stock or commodities nominally dealt in.

Gatewood v. North Carolina, 203 U.S. 531, 536 (1906); see also William Harmon Black, The Law of
sought to stop the bucket shops by cutting off access to its price quotations.\textsuperscript{46} The CBOT was successful in that effort and that campaign formed the foundation for the monopoly in futures given by law to the commodity exchanges that lasted until the end of the last century.\textsuperscript{47} The NYSE was aided by these actions. So-called “difference” trading, i.e., betting on price changes in a stock, fell within the state gambling and bucket shop prohibitions.\textsuperscript{48} The NYSE also was able to restrict access to its price quotations through court actions and limiting access to its facilities, thereby enhancing its own monopoly status.\textsuperscript{49}

After the CBOT’s success was assured, commodity exchanges sprang up in Chicago and other cities.\textsuperscript{50} For example, “[t]he Chicago Butter and Egg Board was founded in 1898 and evolved into the Chicago Mercantile Exchange (now CME) in 1919.”\textsuperscript{51} Another of the largest commodity exchanges with a trading floor is the New York Mercantile Exchange (NYMEX), which traces its history back to a butter and cheese exchange that was operating in 1872. The NYMEX is now an amalgamation of several New York commodity exchanges, including the Commodity Exchange Inc. (COMEX), which was itself a consolidation of several other exchanges.\textsuperscript{52}

Significantly, the futures exchanges were not in serious competition with the stock exchanges until the last quarter of the twentieth century. Until then, the commodity exchanges were just that—they traded only agricultural commodities—while the securities markets traded only securities.\textsuperscript{53} However, in 1973, the CBOT adapted

\textbf{STOCK EXCHANGES, STOCK BROKERS & CUSTOMERS 136 (1940) (describing origin of the term).}

45. See Lynn A. Stout, Why the Law Hates Speculators: Regulation and Private Ordering in the Market for OTC Derivatives, 48 DUKE L.J. 701, 721-25 (1999) (describing this legislation). The Supreme Court held that transactions on the CBOT were not prohibited as gambling transactions because they created legally enforceable delivery obligations even though most such obligations were offset with an opposing futures contract. Bd. of Trade v. Christie Grain & Stock Co., 198 U.S. 236, 249-50 (1905).

46. Jerry W. Markham, “Confederate Bonds,” “General Custer,” and the Regulation of Derivative Financial Instruments, 25 SETON HALL L. REV. 1, 12-14 (1994) [hereinafter Markham, Regulation]. The exchanges failed in this century to curb the growth of ECNs by cutting off access to their quotes. In New York Mercantile Exchange, Inc. v. Intercontinental Exchange, Inc., 497 F.3d 109, 118 (2d. Cir 2007), the Second Circuit held that settlement prices on the New York Mercantile Exchange were not protected by copyright and that enforcing such a copyright would effectively protect the idea itself. Ideas and facts that are part of the public domain cannot be copyrighted. \textit{Id.} at 116.

47. Markham, Regulation, supra note 46, at 12-14.

48. \textit{Id.}


50. MARKHAM, FUTURES TRADING, supra note 33, at 7-8.


53. Some commodity exchanges experimented with trading stocks, but not successfully. For example, the
commodity futures trading practices to securities when it created the Chicago Board Options Exchange, Inc. (CBOE). The CME also began trading commodity futures in precious metals and currencies. The CBOT and the CME then segued into trading futures on a number of financial instruments (including government securities and stock indexes) and futures and options trading on financial instruments soon dominated their trading floors.

C. The Regulatory Era

Initially, exchange members were the primary means by which enforcement of violations occurred. Although some argue that self-regulation was nonexistent at worst, or unevenly applied at best, it remained the method of enforcement for many years. The commodity exchanges were largely untouched by federal regulation until the 1920s, and the stock exchanges were not regulated until 1934. This is not to suggest that there were not problems on the exchanges. The CBOT was infamous almost from the inception of futures trading for corners and other manipulative activities that adversely affected farm prices. While members of Congress introduced some 200 bills calling for regulation of the futures exchanges between 1884 and 1921, none passed.

Speculation associated with World War I led to a massive study of the grain trade and the commodity futures exchanges. Composed of seven volumes, the study

Nymex created the National Stock Exchange in 1962 to compete with the American Stock Exchange through futures style trading in pits. It was not successful and was closed in 1974. N. Y. MERCANTILE EXCH., A HISTORY OF COMMERCE AT THE NEW YORK MERCANTILE EXCHANGE, THE EVOLUTION OF AN INTERNATIONAL MARKETPLACE 26-27 (1988).

55. See Jeremy Grant, Democrat in Move over US Futures Regulator, FIN. TIMES (London), Jan. 11, 2007, at 4 (explaining that the volume of financial futures now “dwarfs” that of agricultural futures on the commodity exchanges); see also Romano, supra note 35, at 12 (describing the growth of these instruments).
56. See BD. OF TRADE OF THE CITY OF CHICAGO, supra note 33, at 77 (acknowledging that the “U.S. futures markets have a long history of self-regulation that dates from the mid-1800s, predating both state and federal regulation”).
57. See Stephen C. Pirrong, The Self-Regulation of Commodity Exchanges: The Case of Market Manipulation, 38 J.L. & Econ. 141, 143 (1995). “Self-regulatory enforcement was virtually nonexistent during the period preceding the [Grain Futures Act]. Exchange members frequently voted down rules mandating penalties for manipulative conduct.” Id. The Federal Trade Commission concluded that despite the ineffectiveness of self-regulation, futures trading in grain should not be abolished but should be subject to governmental supervision. See 5 FED. TRADE COMM’N, REPORT ON THE GRAIN TRADE 27, 260, 382 (1921).
58. See G. Wright Hoffman, Governmental Regulation of Exchanges, 155 ANNALS AM. ACAD. POL. & SOC. SCI. 39, 46-47 (1931) (acknowledging that “the laws passed by the various states relate more to the regulation of future trading than to the regulation of exchanges. Stated in another way, they relate only indirectly to organized exchanges.”).
59. Jerry W. Markham, Manipulation of Commodity Futures Prices—The Unprosecutable Crime, 8 YALE J. ON REG. 281, 288-92 (1991) [hereinafter Markham, Manipulation].
60. Comment, Federal Regulation of Commodity Futures Trading, 60 YALE L.J. 822, 832 n.46 (1951). One bill was passed by both houses in 1892 but could not be reconciled in the Conference Committee and this was not enacted. Markham, Manipulation, supra note 59, at 291 n.41; see also John Rainbolt, Regulating the Grain Gambler and His Successors, 6 HOFSTRA L. REV. 1, 6 (1977) (describing the Hatch bill).
61. Federal commodity laws originated after President Wilson requested an investigation by the Federal Trade Commission of complaints of manipulation in the grain trade. See FED. TRADE COMM’N, MEETING OF
isolated manipulative activities such as "corners" and "squeezes" that disrupted markets and pricing. This study led to the passage of the Future Trading Act of 1921, but the Supreme Court held the Act was unconstitutional because the statute improperly relied on Congress's taxing power. However, a market manipulation that occurred on the day after the Supreme Court's decision led Congress to pass the Act again, this time under its Commerce Clause powers, and that statute, the Grain Futures Act of 1922 ("GFA"), was upheld by the Court. The GFA limited futures trading to "contract markets" licensed by the federal government, thereby establishing the exchange trading floor's exclusivity over trading in futures contracts for decades to come. Like most congressional actions, the limitation of trading to "contract markets" was a balance of interests, promoting the dissemination of price information, expanding the regulation and monitoring of the marketplace, and eliminating bucket shops, which would be

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THE FED. TRADE COMM'N 2 (July 23, 1917) (adopting a resolution initiating the inquiry and identifying the President's request for an investigation), available at http://www.ftc.gov/os/minutes/jul-aug1917.pdf. The investigation, spurred by claims of manipulation by the Minneapolis Chamber of Commerce, led to a series of reports and ultimately federal regulation. See id. (adopting a resolution stating:

representatives of the [FTC] have made a report of a preliminary investigation of [allegations that the Chamber of Commerce of Minneapolis attempted to monopolize the grain trade of the Northwest] from which it appears that the charges have foundation in fact, and from which it appears that a fuller investigation of this complaint will involve the entire grain business . . . and the Boards of Trade of Duluth and Chicago).

See also FED. TRADE COMM'N, ANNUAL REPORT OF FED. TRADE COMM'N 60 (1926) [hereinafter FTC 1921 ANNUAL REPORT] (concluding that "[t]he evil effect upon the market of trading in unduly large lots by wealthy individuals or daring speculators should be dealt with directly, it is indicated, through the machinery of the Grain Futures Administration of the Department of Agriculture"); Revision of Federal Speculative Position Limits, 72 Fed. Reg. 65,483, 65,484 (proposed Nov. 21, 2007) (to be codified at 17 C.F.R. pt. 150).

62. 1-7 FED. TRADE COMM'N, REPORT ON THE GRAIN TRADE (1920-1926).
63. 5 FED. TRADE COMM'N, REPORT ON THE GRAIN TRADE (1921) 322.
65. Hill v. Wallace, 259 U.S. 44, 66-67 (1922) (finding "no ground upon which the provisions we have been considering can be sustained as a valid exercise of the taxing power").
69. Jerry W. Markham, The Commodity Exchange Monopoly—Reform is Needed, 48 WASIL & LEE L. REV. 977, 981 (1991) [hereinafter Markham, Monopoly] (discussing how the Act "imposed a tax on futures transactions that were not conducted on an exchange licensed by the federal government").

70. Indeed, the Federal Trade Commission recognized that grain exchanges performed many functions for the agricultural community: "Perhaps the most important function assumed by the exchanges, aside from providing a regulated market procedure and trading places for their members, is that of collecting, recording, and distributing quotations and market information. For these services the trade at large is almost wholly dependent on exchange organizations." FTC 1921 ANNUAL REPORT, supra note 61, at 41-42.

71. See Hoffman, supra note 58, at 53 (summarizing section 8 of the GFA as "authoriz[ing the Secretary of Agriculture] to make investigations, prepare materials, and publish reports upon such phases of the work of boards of trade and marketing generally as he may deem of interest to the public and of use to Congress").
72. See id. at 43 (highlighting the support exchanges provided to state legislators and noting that "[i]n the enforcement of laws prohibiting bucket shops, the various states have long had the active support of organized exchanges. In fact the exchanges have been the principal element in suppressing bucketing schemes and in advocating adequate legislation.").
most easily accomplished by granting "contract market" status exclusively to exchanges that would police themselves in order to protect their licenses.  

The securities exchanges had a somewhat parallel history, but delayed federal regulation a bit longer than the commodities exchanges. The NYSE was notorious for the manipulations conducted on its floor by robber barons in the nineteenth century such as the "Erie Gang" composed of Daniel Drew, James Fisk, and Jay Gould. The "unlisted" stock trading department at the NYSE was trading highly speculative securities about which little was known because they refused to publish financial statements. Despite these shortcomings, the NYSE was able to escape federal regulation until the 1930s. It did have a close call after the Panic of 1907 resulted in a congressional investigation that generated some pointed criticism of the NYSE’s operations. The NYSE escaped regulation then but did agree to abolish its unlisted trading department. 

The NYSE was not so lucky after the Stock Market Crash of 1929 and the onslaught of the Great Depression. The Securities Exchange Act of 1934 was designed to directly address the NYSE, requiring it and other stock exchanges to register as a “national securities exchange” subject to the pervasive regulation of the Securities and Exchange Commission. The SEC forced the NYSE to remodel its governance procedures after one of its officials became involved in a scandal. The SEC also forced the exchange to

73. FED. TRADE COMM’N, ANNUAL REPORT OF FED. TRADE COMM’N 64 (1923) (summarizing the results of its inquiry into futures trading by stating:

[i]n view of the fact that futures prices have a substantial influence on cash prices (and this is insisted on by most of the proponents of futures trading) and the fact that artificial price conditions so often prevail in the futures market, it seems clear that, if this trading is permitted to continue, the Federal Government should regulate it, in order to prevent abuses).

But see Hoffman, supra note 58, at 52 (highlighting the provision of section 4 of the GFA exempting “all forward delivery contracts in which farmers or farm interests appear as sellers”),


75. No Unlisted Stocks After Next April; Exchange Abolishes the Department, as Recommended by Hughes Committee. TIME FOR ADJUSTMENT But No More Admissions—Such Stocks May Apply for Admission to Regular List, N.Y. TIMES, July 22, 1909, at 8 [hereinafter No Unlisted Stocks].

76. That investigation was led by Representative Arsene Pujo, the Chairman of the House Committee on Banking and Currency (the “Pujo Committee”). He charged that the NYSE was largely a gambling operation in which many trades were offset futures-style and payment made on the basis of any price differences. H.R. REP. NO. 62-1593, at 35 (1913).

77. No Unlisted Stocks, supra note 75, at 8.


80. That individual was Richard Whitney, a former NYSE president who had vigorously led the opposition to the enactment of the federal securities laws. Elisabeth Keller & Gregory A. Gehlmann, Introductory Comment: A Historical Introduction to the Securities Act of 1933 and the Securities Exchange Act of 1934, 49 OHIO ST. L.J. 329, 351-52 (1988). It was later discovered that he had been stealing from the NYSE Gratitude Fund that provided benefits for widows and children of deceased members. He also stole from the customers of his firm and from the New York Yacht Club. He was sent to Sing Sing prison for those crimes.
ban floor traders. These were members trading for their own accounts on the exchange floor. The SEC thought that the time and place advantage gained by the floor traders on the floor was unfair to other traders.\textsuperscript{81} In contrast, the commodity exchanges encouraged floor traders because they added liquidity to the market.\textsuperscript{82} Unlike the futures industry, over-the-counter (OTC) trading was regulated by the Maloney Act of 1938\textsuperscript{83} and, therefore, sanctioned. This gave rise to the National Association of Securities Dealers, Inc. (NASD). As described below, the NASD created its own OTC electronic quotation system in 1968—Nasdaq.\textsuperscript{84}

The NYSE sought to protect the advantages accruing to specialists and other members after the creation of the SEC. NYSE Rule 390 prohibited its members from trading listed stocks on any place other than the exchange floor.\textsuperscript{85} This gave rise to the so-called “third” and “fourth” markets in NYSE listed stocks. The third market involved transactions in NYSE stock executed by broker-dealers that were not NYSE members and, therefore, not subject to the requirements of Rule 390.\textsuperscript{86} The fourth market involved transactions between two institutional investors directly, without exchange or broker-dealer intermediation, and it was these systems that led to the development of ECNs.\textsuperscript{87}

Another source of competition to NYSE specialists came in a new form of trading large quantities of securities, also known as “block trades.” These were arranged “upstairs” by a NYSE member broker-dealer and crossed on the floor, thereby denying the specialist its normal bid-ask spread.\textsuperscript{88} By 1993, the NYSE was still executing almost 70% of total orders and 80% of volume for its listed stocks, but about half of that volume was done through block trades.\textsuperscript{89}

\textit{See generally John Brooks, Once in Golconda: A True Drama of Wall Street 1920-1938 (1969).}

\section*{Note}
\begin{itemize}
  \item \textsuperscript{81} Joel Seligman, The Transformation of Wall Street: A History of the Securities and Exchange Commission and Modern Corporate Finance 228-343 (1982).
  \item \textsuperscript{82} Leo Melamed, The Mechanics of a Commodity Futures Exchange: A Critique of Automation of the Transaction Process, 6 Hofstra L. Rev. 149, 159 (1977). Floor traders (known as “locals” in the futures industry) were allowed both to trade for their own account and execute customer orders, giving rise to concerns over conflict of interest. Markham, Monopoly, supra note 69, at 1023-24.
  \item \textsuperscript{83} See United States v. Nat’l Ass’n of Sec. Dealers, Inc., 422 U.S. 694, 700 n.6 (1975) (describing this legislation).
  \item \textsuperscript{84} 2 Jerry W. Markham, A Financial History of the United States, From J.P. Morgan to the Institutional Investors (1900-1970) 347 (M.E. Sharpe 2002) (describing the creation of this system).
  \item \textsuperscript{85} Charles Schumer, A Shot Across the Trading Floor, N.Y. Times, May 5, 2000, at A27 (“It may seem hard to believe, but for two centuries the New York Stock Exchange has operated mostly as a monopoly ... ”).
  \item \textsuperscript{86} See Dale A. Oesterle, Comments on the SEC’s Market 2000 Report: On, Among Other Things, Deference to SROs, the Mirage of Price Improvement, the Arrogation of Property Rights in Order Flow, and SEC Incrementalism, 19 J. Corp. L. 483, 505 (1994) (describing these markets).
  \item \textsuperscript{87} Eric C. Ottes, Comment, Balancing the Interests of Retail and Institutional Investors: The Continued Quest for Transparency in Today’s Fragmented Equity Markets, 96 Nw. U. L. Rev. 1607, 1615 (2002) (describing the fourth market).
  \item \textsuperscript{88} See Robert E. Rubin & Jacob Weisberg, In an Uncertain World: Tough Choices from Wall Street to Washington 71 (2003) (describing block trades); Otten, supra note 87, at 1614 (same). Market makers quote two-sided markets at a spread; their bids being lower than their offers. This means that, assuming no underlying change in the market, a person buying a contract and immediately reselling it will be paid less for the contract than what was paid for it, causing a loss. See Stanislav Dolgopolov, Insider Trading and the Bid-Ask Spread: A Critical Evaluation of Adverse Selection in Market Making, 33 Cap. U. L. Rev. 83, 88-89 (2004) (describing the bid-ask spread).
  \item \textsuperscript{89} Div. of Mkt. Regulation, U.S. SEC. and Exch. Comm’n., Market 2000: An Examination of
\end{itemize}
The market also experienced some dramatic changes after World War II. Significantly, institutional traders, such as mutual funds and pension funds (and now hedge funds, private equity funds, and sovereign wealth funds), began supplanting the individual retail investor in the securities markets. By 1992, institutions owned over 50% of all U.S. equities, up from 30% in 1975. Institutions were also accounting for more than 80% of trading volume on stock markets by 1992. This growth had several implications, but of critical importance was the fact that the SEC and the federal securities laws were structured to protect only the small investor, not institutions and sophisticated investors who could look out for themselves. This allowed the latter to operate outside much of the SEC regulatory framework. The institutional traders also had the wherewithal to develop or seek out alternative trading systems that would provide more effective executions and avoid paying the specialist’s spread.

The SEC conducted a study in 1971 on the growth of institutional trading. It was concerned that the growth of such trading might create separately tiered markets for institutions and retail investors. The concern was that a three-tiered market was developing that was composed of (1) large institutions, (2) medium-sized institutions and

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90. See generally The Role of the Institutional Investors in Corporate Governance and Capital Markets: Hearings Before the Subcomm. on Securities of the S. Comm. on Banking, Housing, and Urban Affairs, 101st Cong. (1989), Individual investors owned more than half of all stock in the 1950s. NYSE & WHARTON SCHOOL, THE POLICY IMPLICATIONS OF STOCK OWNERSHIP PATTERNS 1 (1993). One commentator noted:

In 1960, the total equity security holdings of institutional investors represented 12.6% of the total U.S. equity markets. The percentage grew to 19.4% in 1970, to 33.9% in 1980, to 47.2% in 1990, and to 48.5% in 1996. The total value of institutional investors holdings, which were $672.6 billion in 1970, grew to $11.1 trillion by 1996.


Defining institutional investors to include private pension funds, investment companies, life insurance companies, bank-managed trust funds, state and local retirement funds, foundations, educational endowments, and similar accounts, the total assets under their management has increased 14.1% per year, more than doubling in value, from $2.1 trillion in 1981 to $4.46 trillion in 1987.


91. MARKET 2000, supra note 89, at 6.


93. See generally Jerry W. Markham, Protecting the Institutional Investor—Jungle Predator or Shorn Lamb?, 12 YALE J. ON REG. 345 (1995) [hereinafter Markham, Protecting] (describing this bifurcated regulatory structure).

94. Some critics contend that institutions should be given the protections accorded to retail investors, such as protection under the “suitability” rule that prohibits broker-dealers from recommending securities that are not suitable for a customer in light of that particular customer’s needs and investment goals. See Norman S. Poser, Liability of Broker-Dealers for Unsuitable Recommendations to Institutional Investors, 2001 B.Y.U. L. REV. 1493, 1498-99 (discussing the suitability doctrine).

95. 1-4 SEC. & EXCH. COMM., INSTITUTIONAL STUDY REPORT 9 (1971). This study was conducted for the SEC by the National Bureau of Economic Research. Id.
wealthy individuals, and (3) small retail customers. The SEC also raised concerns with market “fragmentation” that might result in disparate pricing for the same securities in different markets, which had been the justification for NYSE Rule 390. The SEC sought to counter these concerns with a concept it dubbed the “central market system,” later renamed the “national market system” in the 1975 amendments to the Securities and Exchange Act of 1934 that gave statutory recognition to this concept. The SEC sought to prevent market fragmentation by requiring that retail customers receive the “best execution” available on any market for their trades.

This entire effort turned out to be an exercise in futility. The primary survivor of the SEC’s central market program was the “Consolidated Tape,” which now seems quaint in light of other technological advances. In addition, an electronic link among the specialists trading the same stock on different exchanges was created and was the centerpiece of the new central market envisioned by the SEC. This Intermarket Trading System, “ITS” as it was dubbed, had little effect on the NYSE’s domination because specialists on the regional exchanges simply traded off the NYSE specialist quotes, not wanting to compete with the more powerful NYSE market maker. A link was also created between NYSE specialists and Nasdaq market makers.

In 1981, the ITS adopted a requirement:

that changed the essential nature of the ITS system from a voluntary execution system, in which a market-maker in one market could choose to execute trades in other markets, to a mandatory execution system, in which a market maker [sic] in one market center, under some circumstances, was forced to execute trades in other markets.

The SEC “trade through” rule required execution of orders at the best available price. Sticking to this Central Market concept, the SEC in 1997 adopted another form of “trade through” rule that required Nasdaq market makers to inform customers of matchable limit orders from other customers at a price more favorable than the market maker’s quote and to disclose whether the market maker has traded at better prices on an ECN. Still later,

96. BULLS & BEARS, supra note 28, at 7.
101. Nyantung Beny, supra note 97, at 415-16.
102. Id. at 416-17.
104. Id.
the SEC adopted an “Order Protection Rule” under Regulation NMS that requires “trading centers” to create written procedures to prevent the execution of “trade throughs,” i.e., trades at prices inferior to quotations displayed by other trading centers.\textsuperscript{106} Trading centers include “national securities exchanges, exchange specialists, ATSS [ECNs], OTC market makers, and block positioners.”\textsuperscript{107} The SEC also adopted an “Access Rule” that requires non-discriminatory access to quotations at trading centers. That rule seeks to prevent market participants from displaying quotations that lock (i.e., create a situation where there is no spread between bids and offers) or cross automated quotations.\textsuperscript{108}

The SEC also required the NYSE to limit its Rule 390 to only those NYSE stocks listed before April 26, 1979.\textsuperscript{109} Nasdaq market makers were then allowed to access the ITS for NYSE stocks listed after that date.\textsuperscript{110} It was not until December 1999 (and only after much pressure from the SEC), however, that the NYSE agreed to drop Rule 390 entirely.\textsuperscript{111}

The more successful of the Central Market efforts was the creation of the Depository Trust Company whose centralized stock transfers after a “paperwork crisis” on the NYSE nearly destroyed the securities industry in the 1960s. NYSE member firms had tried to automate their operations during that crisis, but the lack of back up systems only compounded problems as errors mounted.\textsuperscript{112} This was a strong signal that increased trading volumes would require automation of order flow.\textsuperscript{113}

\textbf{D. Market Convergence}

The CBOT did not stop with the CBOE in its efforts to introduce open outcry style pit trading into the securities markets. Soon after the CFTC was created, the CBOT introduced a futures contract on Government National Mortgage Association pass-through securities, a product for the securities industry.\textsuperscript{114} That product was immediately successful, but it set off a long-running war between the CFTC and SEC over jurisdiction

\begin{itemize}
\item \textsuperscript{106} 70 Fed. Reg. 37,496 (June 29, 2005).
\item \textsuperscript{107} Id. at 37,504.
\item \textsuperscript{108} Id. at 37,496. The SEC also adopted a “Sub-Penny Rule” that “prohibits market participants from accepting, ranking, or displaying orders, quotations, or indications of interest in a pricing increment smaller than a penny, except for orders, quotations, or indications of interest that are priced at less than $1.00 per share.” Id.
\item \textsuperscript{109} S.E.C. Adopts Rule to Open Up Trading in Big Board Stocks, N.Y. TIMES, Dec. 9, 1999, at C27.
\item \textsuperscript{110} For a description of the Intermarket Trading System, see Regulation of Exchanges, Exchange Act Release No. 38,672, 64 SEC Docket 1631 (May 23, 1997).
\item \textsuperscript{114} See American Regulatory Bodies: Watchdog Bites Watchdog, THE ECONOMIST, Feb. 18, 1978, at 118.
\item \textsuperscript{115} Bd. of Trade of Chi. v. SEC, 677 F.2d 1137 (7th Cir. 1982).
\end{itemize}
of these instruments. That fight did nothing to slow the CFTC’s approval of more futures-style trading on financial instruments, including a number of very popular futures contracts on stock indexes and government securities. The CFTC and SEC settled some of their differences through the so-called Shad-Johnson Accord, an agreement between the chairmen of the two agencies that was subsequently enacted into law. That agreement confirmed the CFTC’s authority to approve futures and options on futures contracts on broad-based indexes and allowed index options to be traded on the CBOE and other option exchanges regulated by the SEC. Initially, futures contracts on a single stock were prohibited, but that restriction was lifted in 2000 and a form of dual regulation was adopted allowing both the CFTC and SEC to regulate such contracts.

These products resulted in a great deal of trading by institutions that had previously shunned the commodity markets and a number of new trading strategies were developed. Those strategies included “dynamic hedging,” or “portfolio insurance,” that allowed portfolio managers to protect their portfolios from market changes without liquidating the assets held in the portfolio. “Program trading,” i.e., trading on the basis of trading signals generated by computer programs that seek to predict market changes by mathematical models, was quickly popular.

Concern was raised that these new financial futures might pose a danger to the markets, as where computer programs used by program traders generate sell signals in a market downturn that pushes prices down further, generating more sell signals until the market collapses in a “meltdown.” That prophesy was nearly fulfilled in the Stock Market Crash of 1987 when the Dow Jones Industrial Average dropped more in absolute and relative terms than in the Stock Market Crash of 1929, paralyzing the NYSE because it simply did not have the capacity to handle that unexpected volume.

A number of studies were conducted after the Stock Market Crash of 1987 to ascertain whether the commodity futures markets should be subject to further regulation in the form of crippling margin requirements that would curb speculation. After much

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123. Markham & McCloy Stephanz, supra note 122, at 2006-21.
back and forth, little was done except to adopt trading collars ("circuit breakers"), borrowing from similar limitations on futures exchanges. The circuit breakers suspended trading on the NYSE when prices moved a predefined, and largely arbitrary, amount. The circuit breaker rules became effective during periods of high volatility. The exchange believed that the circuit breakers would slow electronic program trading, allow traders to respond more rationally to market events, and thus, provide the NYSE with additional time to process trades, which would lead to a more orderly market.

The circuit breakers proved to be unpopular and were discarded in 2007, almost 20 years to the day from when they were first proposed. They were, in all events, no longer needed to allow orderly trade processing because the NYSE had massively increased its capacity to deal with large volume trading that might trigger those limits. In 1987, the NYSE could handle only about 95 electronic messages per second, but by 2007 it was able to handle 38,000 messages per second as the result of computer enhancements. Trading continued between the derivative and securities markets despite periodic market disruptions and regulatory concerns.

E. The Role of the Exchange

The modern regulated exchange has several roles. Its transparency provides a price discovery mechanism and liquidity so that investors, speculators, and hedgers can quickly create and liquidate positions at current market prices. The exchanges also provide some quality control features. For example, the commodity exchanges standardize contract terms for such things as quantity, quality, and delivery conditions. The exchange clearinghouses provide clearing and settlement functions that assure the smooth

125. Called “price limits” on the commodity exchanges, these rules suspended trading whenever market prices exceeded specified levels. See, e.g., CBOT, RULEBOOK R. 10102.D (2007) (establishing the daily price limits in corn futures). See also Case & Co. v. Bd. of Trade of the City of Chicago, 523 F.2d 355, 358 (7th Cir. 1975) (describing these price limits). The Commodity Exchange Act does not require exchanges to impose limits on the maximum price movement in a futures contract on any given day. However, Appendix A of applications for contract market designation and continuing compliance include requests for information regarding daily price limit provisions. See CFTC Economic and Public Interest Requirements for Contract Market Designation 64 Fed. Reg. 104 ¶ 29,217, 29,222 (June 1, 1999) (codified at 17 C.F.R. pt. 5). This provision is included because the “Commission’s Guideline No. 1 states that maximum daily price fluctuation limits that are adopted by an exchange should be . . . ‘not overly restrictive in relation to price movements in the cash market.’” COMMODITY FUTURES TRADING COMM’N DIV. ECON. ANALYSIS, RECOMMENDATIONS REGARDING CBOT’S PROPOSED RULE CHANGE TO MAXIMUM DAILY PRICE FLUCTUATIONS 6 (Aug. 8, 2000).

126. Booth, supra note 121 at 8-10 (criticizing these circuit breakers as being ineffective and arbitrary).


129. NYSE Files to End Trading “Collars,” WALL ST. J., Oct. 27, 2007, at B3. The circuit breakers had kicked in when the Dow Jones Industrial Average dropped 554 points on October 27, 1997, ten years after the 1987 crash, but NYSE systems had improved enough to deal with such unexpected events. See RUBIN & WEISBERG, supra note 88, at 190-91.


131. The SEC staff has stated that “transparency[,] . . . the real-time [public] dissemination of [trade and quote] information[,] . . . plays a fundamental role in the fairness and efficiency of the secondary markets.” MARKET 2000, supra note 89, at 17.
processing and confirmation of trades, overnight in the case of the commodity exchanges and within three days on the securities exchanges. The commodity exchange clearinghouses also provide a performance guarantee for counterparties, eliminating most concerns of counterparty default.\(^{132}\)

The stock exchanges and Nasdaq impose minimum listing requirements as quality control mechanisms. When developing new products to trade, exchanges often seek the input from participants in the cash market or dealers.\(^{133}\) For instance, in order for a company to obtain a listing on a national securities exchange, an indication of interest from brokers, dealers, and underwriters is a virtual requirement.\(^{134}\) The commodity exchanges also decide what products they will trade with a view toward preventing manipulation and are constantly testing new products.\(^{135}\)

Market transparency allows regulators to follow market trends and adjust their regulation accordingly. To illustrate, the CFTC revised its Commitment of Traders Report in 2006 and formally recognized a new category of trader, the “index trader.”\(^{136}\)

The primary purpose of the report is to identify publicly the composition of participants


133. Some studies suggest that the arbitrageurs and speculators and not the exchanges are the true designers of standardized contracts. See Jens Nystedt, Derivative Market Competition: OTC Markets Versus Organized Derivative Exchanges 9 (Int’l Monetary Fund, Working Paper No. WP/04/61, 2004) (citing research by R. Rahi and J. Zigrand and paraphrasing that “[r]ather than assuming, as is common in the literature, that exchanges design the innovations/contracts, Rahi and Zigrand argue that profit seeking agents that trade on the exchanges play an important role in the ultimate design of a financial contract”), available at http://ssrn.com/abstract=878884.


135. Although often considered the lifeblood of a commodity exchange, new contracts may prove detrimental. Some research suggests that, if not adequately complimentary to existing contracts, the development of new contracts could reduce overall exchange volume.

The possibility of cannibalism when introducing a new futures contract exists, leading to a volume decrease for those futures contracts currently traded. This volume decrease might, in turn, lead to a decline in liquidity, which would ultimately threaten the exchange’s viability. These results gain special relevance when applied to new futures exchanges because of their smaller scale.

Pennings & Leuthold, Cannibalism, supra note 37, at 672.

136. “Recognize” is a little misplaced here because the CFTC did not produce a definition of “index trader,” perhaps in keeping with the principles-based approach to regulation. The CFTC describes the category consisting of “mostly . . . those that are seeking a more general exposure to commodity prices, typically in a long-only, unleveraged, and passively-managed manner using a standardized commodity index.” Commodity Futures Trading Comm’n, Commission Actions in Response to the “Comprehensive Review of the Commitments of Traders Reporting Program” 10 (2006), available at http://www.cftc.gov/stellent/groups/public/@commitmentsoftraders/documents/file/noticeonsupplementalcotreport.pdf. Further clarifying the definition, the CFTC explained that:

[Staff, having weighed all the available information, has used its best judgment to designate certain traders as Index Traders. Some traders assigned to this category are engaged in other futures activity that could not be disaggregated. As a result, the Index Traders category, which is typically made up of traders with long-only futures positions, will include some short futures positions where traders have multi-dimensional trading activities, the preponderance of which is index trading.

Id. (footnotes omitted).
in various commodity markets.\footnote{137} The report provides the public with a glimpse of what some exchanges already know, trends in market participants’ positions, and something the exchanges do not know, a detailed comparison of their customers’ activity relative to other exchanges.\footnote{138}

As a class, the index traders’ interest represents a significant minority in the markets in which they participate.\footnote{139} Of particular interest is a comparison of the index traders’ participation in wheat contracts offered by the Kansas City Board of Trade (KCBOT) and the CBOT.\footnote{140} Comparing the index traders’ activity in these two markets can lead to the conclusion that exchanges that promote their electronic trading system will attract more market users. In particular, the index traders’ participation in the KCBOT and CBOT’s wheat contracts presages other participants’ preference in choosing a market. The trend in commercial traders’ participation is quite clear in this respect.\footnote{141} Commercial traders are migrating to the CBOT’s wheat contract in large numbers despite the fact that a competing exchange offers a more accurate hedging product.\footnote{142} The migration suggests that hard red winter wheat commercial hedgers prefer to use a futures contract designed for another product type—the CBOT’s wheat contract is designed for the soft red winter wheat—over the KCBOT’s futures contract, a contract specifically designed for hard red winter wheat hedging. To create a mature, liquid market, exchanges must attract

\begin{footnotes}
\footnote{137}{See Commodity Futures Trading Comm’n, About the Commitments of Traders Report, [hereinafter CFTC, Commitments of Traders], http://www.cftc.gov/marketreports/commitmentsoftraders/cot_about.html (last visited Apr. 1, 2008).}

\footnote{138}{Id.}

\footnote{139}{See Commodity Futures Trading Comm’n, Historical Commitments of Traders Commodity Index Trader Supplement Reports 2006–Present, available at http://www.cftc.gov/marketreports/commitmentsoftraders/index.htm (last visited Apr. 27, 2008). During the period covered by the Supplement, index traders held as much as 51% of the open interest in CBOT wheat and as little as 12% in KCBOT wheat. Id.}

\footnote{140}{The CBOT contract has seen a growing number of reportable index traders in the CBOT’s wheat contract. The total positions held by index traders has also increased in the CBOT’s wheat contract over the last year by 26,200 contracts while their positions in the KCBOT’s wheat contract have only increased by 7,000 contracts. See id.}

\footnote{141}{The CFTC apparently uses multiple criteria for determining a participant’s “commercial” status. For “traders” the standard is whether the trader uses a “futures contracts in that particular commodity for hedging as defined in [the Commission Rule 1.3(z)].” For a “trading entity” the standard is whether the trader files the Form 40 and affirms that it is “commercially . . . engaged in business activities hedged by the use of the futures or option markets.” CFTC, Commitments of Traders, supra note 137.}

\footnote{142}{During the initial period covered by the Supplement, commercial participants increased their interest in the CBOT’s contract by 56% while at the same time they reduced their interest in the KCBOT’s contract by 31%. On January 3, 2006, the two exchanges had nearly identical commercial participation, 103 commercial participants in the CBOT contract versus 102 in the KCBOT contract. See Commodity Futures Trading Comm’n, Commitments of Traders Reports - January 3, 2006, available at http://cftc.gov/marketreports/commitmentsoftraders/cot010306.html (last visited May 28, 2008) (showing a commercial long participation of 42 and commercial short participation of 61 for CBOT wheat and showing a commercial long participation of 41 and commercial short participation of 61 for KCBOT wheat). Since then, the number of commercial participants has increased by approximately 40% at the CBOT and only 20% at the KCBOT. See Commodity Futures Trading Comm’n, Commitments of Traders Reports - April 22, 2008, available at http://cftc.gov/marketreports/commitmentsoftraders/cot042208.html (last visited May 28, 2008) (showing a commercial long participation of 73 and commercial short participation of 112 for CBOT wheat and showing a commercial long participation of 48 and commercial short participation of 80 for KCBOT wheat).}
participants willing to trade volume.\footnote{143}

One service, and revenue source, for exchanges is fulfilling the demand for market data. As intermediaries found it profitable to develop trading strategies, they demanded and paid for trade data from the exchanges.\footnote{144} The exchanges’ profitability from the dissemination of trade data is large; according to some researchers, market data fees accounted for 50% of the NYSE Group’s total revenues in 2006 while those same fees represented about 80% of Nasdaq’s total revenue.\footnote{145} Exchanges have always charged for historical data, but demand for data was stoked by index traders, hedge funds, and other quantitative traders. Quantitative traders, in particular, require a significant amount of data to test their programs during development. At the same time, hedge funds have also changed the information flow for the commodities in which they invest.\footnote{146}

In addition to providing a marketplace, the exchanges are a natural entity to enforce federal commodity and securities laws.\footnote{147} They are uniquely qualified to act as gatekeeper for membership,\footnote{148} resolve disputes, establish codes for acceptable trading practices, and implement other policies that are applicable to the industry and its trading requirements and standards.\footnote{149} These functions flow naturally to the exchange and lend themselves to revisions and a knowledge base that, over time, led to the exchanges’ assumption of other complementary functions. For instance, exchanges have always performed some level of selection in qualifying new members.\footnote{150} The exchanges

\begin{footnotes}
\item[143] Thus, mature contracts are the result of an exchange’s effort to produce a product both of the basic types of participants, hedgers, and speculators, desire. In developing this product, exchanges must consider the objective of the commercial hedger, “to pass flat price risks onto someone else . . . .” \textsc{Leuthold et al.}, supra note 40, at 70 (discussing one of T.A. Hieronymus’s definitions of “hedging”). When designing a new contract, the exchange must also consider promoting the speculator’s role “to provide liquidity to the market, interpret information, and bridge the gaps between outside orders that vary in time and size.” \textit{Id.} at 30.

\item[144] Today, exchanges customize trade data; one even offers a “Hedge Fund” package. See \textit{CBOT, CBOT Data Exchange}, \url{http://cbotdataexchange.if5.com} (last visited Apr. 5, 2008). The data purchased usually includes volume, open interest, and each trade price, bid, or offer quoted throughout the trading day. \textit{See id.; see also Rene Wijnen, Keeping Pace with Hedge Funds, \textit{Waters}, Feb. 1, 2002} (describing the prime broker’s service of data production to hedge funds as a cost of doing business), \textit{available at} \url{http://db.riskwaters.com/public/showPage.html?page=153101}.


\item[146] See Michael S. Haigh et al., \textit{Price Dynamics, Price Discovery and Large Futures Trader Interactions in the Energy Complex} 25 (Apr. 28, 2005) (U.S. Commodity Futures Trading Comm’n, unpublished manuscript) (explaining that hedge fund traders and money management traders “appear to be, in econometric terms, an information sink—they do not cause any other participant to change their position in contemporaneous time (on the same day) but rather, information flows towards them rather than away”), \textit{available at} \url{www.cftc.gov/files/opa/press05/opacftcstudy.pdf}.

\item[147] \textit{See supra} notes 56-58 and accompanying text (describing the self-policing role of futures markets).

\item[148] All exchanges have a method of qualifying new members. \textit{See, e.g., CBOT RULEBOOK} Ch. 1 (2007). With respect to its gatekeeper functions, an exchange’s membership department reviews applicants’ financial and personal conduct, organizes information, processes applications, and typically presents them to a membership committee for review and action. \textit{See 17 C.F.R.} § 1.52 (2007).

\item[149] \textit{See 17 C.F.R.} § 1.53 (2007); \textit{see also} Banner, \textit{supra} note 11, at 121-25 (identifying five benefits of membership: (i) orderly procedure for matching buyers and sellers; (ii) assurance that other members were creditworthy; (iii) reputation capital that members could use to solicit new customers; (iv) access to market information; and (v) regulation of trading, enforcement of contracts, and dispute resolution).

\item[150] \textit{See Banner, supra} note 11, at 116 (citing the NYSE’s original constitution of 1817 as restricting
\end{footnotes}
benefited from the qualification process because they were able to identify and establish minimum financial and ethical criteria, fostering customer trust and encouraging trading. The very existence of a selection process also conferred benefits on existing members that were critical to their success as brokers.\footnote{see id. at 121-25 (identifying five benefits of membership).} Obviously, regulators could easily tap this long-standing exchange service and establish additional requirements as they saw fit.\footnote{See 17 C.F.R. § 1.53 (2007).}

Another natural service ripe for exchange assumption is the resolution of trading errors. Errors occur on a trading floor every day and usually result in someone losing money, if not jobs and clients.\footnote{Stephen Foley, Single Error Costs Mighty Morgan Stanley $8bn, INDEPENDENT (London), Dec. 20, 2007, available at http://findarticles.com/p/articles/mi_qn4158/is_20071220/ai_n21164197.} Exchange rules attempt to speed up the identification and resolution of errors.\footnote{CFTC Reg. 1.35(j)(1)(i) requires members of contract markets to collect cards for clearance not less than once every fifteen minutes. 17 C.F.R. § 1.35(j)(1) (2007).} Often times, members identify the trade as good, but some portion of it—price, quantity, or contract month—is identified as an error, which results in an “out trade” or the clearinghouse’s rejection of the trade.\footnote{See supra note 125. Each day, for many commodity futures contracts, the exchanges establish the maximum daily high and low prices members are permitted to trade during that day’s trading session. See, e.g., CME Rulebook, R. 588.C; see also Puckett v. Rufenacht, Bromagen & Hertz, & Co., 903 F.2d 1014, 1016 (5th Cir. 1990) (referencing these price limits). Trades made outside of this range established before the beginning of trading every day are simply deleted, or “busted,” as if they never occurred. See, e.g., CHICAGO BD. OF TRADE, ELECTRONIC TRADING PLATFORM REFERENCE MANUAL 72 (2006) (stating all trades “executed outside of the daily price limits will be busted by [the exchange] irrespective of” any other circumstances).} Exchanges can easily prevent some types of errors, like trades beyond the daily price limits.\footnote{see also KANSAS CITY BD. OF TRADE CLEARING CORPORATION, CHARTER PROVISIONS AND BY-LAWS, arts. 6.04(b), 6.05, 6.11, at 6.2-6.3 (1999) (requiring all clearing members to deliver a report by 8:30 a.m. for the previous business day that “shall reconcile all reported errors or discrepancies for the business day of the report” and imposing a fine for any clearing member who fails to deliver such a report and for reports that contain errors), available at http://www.kcbt.com/hi...} Although unpreventable, other types of errors can be easily identified and left to participants to resolve, like quantity errors. Still other types of errors, like trading through the market,\footnote{“Trading through the market” refers to trades made higher than the lowest current offer or lower than the highest current bid at the time of execution. See, e.g., CHICAGO BD. OF TRADE, CHICAGO BOARD OF TRADE RULEBOOK 514.A.1 (identifying any “trade through the existing bid or offer” as a trading infraction), available at http://www.cbot.com/cbot/pub/cont_detail/0,3206,931155510,00.html.} which under the pressure of face-to-face transactions by members in the pits occur rarely on the floor, can cause havoc in the electronic marketplace. Exchanges adopted the most significant revisions to error trade policies to address this last type of error.

Exchanges have always performed some dispute resolution function.\footnote{See 17 C.F.R. § 1.53.A.1 (identifying any “trade through the existing bid or offer” as a trading infraction), available at http://www.cbot.com/cbot/pub/cont_detail/0,3206,931155510,00.html. See Banner, supra note 11.} The highly specialized nature of disputes and the industry norms for resolving such disputes are largely responsible for the exchange’s willingness to undertake these functions. The exchanges and their national counterparts, the National Futures Association (NFA) and the NASD (now the Financial Industry Regulatory Authority, Inc. (FINRA)), also

\begin{itemize}
\itemmembers to those who “have been in the business for the term of one or more years”).\footnote{See id. at 121-25 (identifying five benefits of membership).}
\itemSee 17 C.F.R. § 1.53 (2007).
\itemSee supra note 125. Each day, for many commodity futures contracts, the exchanges establish the maximum daily high and low prices members are permitted to trade during that day’s trading session. See, e.g., CME Rulebook, R. 588.C; see also Puckett v. Rufenacht, Bromagen & Hertz, & Co., 903 F.2d 1014, 1016 (5th Cir. 1990) (referencing these price limits). Trades made outside of this range established before the beginning of trading every day are simply deleted, or “busted,” as if they never occurred. See, e.g., CHICAGO BD. OF TRADE, ELECTRONIC TRADING PLATFORM REFERENCE MANUAL 72 (2006) (stating all trades “executed outside of the daily price limits will be busted by [the exchange] irrespective of” any other circumstances).
\itemSee Banner, supra note 11.
\end{itemize}
provide arbitration forums to resolve disputes with customers and among members. The Supreme Court’s recognition of the enforceability of such contracts has led many, if not most, broker-dealer/customer disputes to be settled by arbitration rather than in the courts. Electronic trading is unlikely to have a significant impact on dispute resolution. The most significant changes in this area would relate to the nature of the dispute, the legal arguments presented, and the forms of acceptable evidence.

Most significantly, the exchanges and their counterparts (FINRA and NFA) have provided a self-regulatory role that supplements governmental regulations. Former SEC chairman and Supreme Court Justice William O. Douglas described the concept of self-regulation as requiring the exchanges to be the frontline regulator with the government playing only a residual role: "Government will keep the shotgun, so to speak, behind the door, loaded, well oiled, cleaned, ready for use but with the hope it would never have to be used." However, the SEC and CFTC have never fully believed in the concept and have broadly exercised their powers to regulate the markets. Today, the self-regulatory bodies have become vast bureaucracies that impose regulations in many instances are even more intrusive than those agencies. However, the exchanges and other self-regulators do impose education and other requirements designed to assure competency in industry professionals.

III. ELECTRONIC TRADING ARRIVES

A. Automation Arrives in the Futures Industry

The futures industry had accepted computerization into its clearing processes as quickly as the technology became available because of the exchanges’ requirement that all trades be matched and cleared before the opening of business on the next day. There was no thought given to computerizing the futures exchange trading floor until the adoption of the Commodity Futures Trading Commission Act of 1974. Among other things, that legislation created the CFTC and instructed it to act as the futures industry


161. WILLIAM O. DOUGLAS, DEMOCRACY IN FINANCE 82 (1940).

162. FINRA has continuing education programs for registrants and licensing series to assure competence. FINRA-Education & Programs, http://www.finra.org/EducationPrograms/index.htm (last visited Apr. 1, 2008).

163. In contrast, securities transactions were cleared on a five-day cycle until 1994, when a three-day cycle (T+3) became required. MARKHAM, NEW MILLENNIUM, supra note 92, at 219.

analog to the SEC in the securities industry. A long forgotten provision of that legislation also required the CFTC to study how computers could aid trading in the industry.\textsuperscript{165} The CFTC held a conference on that topic in 1977. Papers presented at the conference were critical of the perceived inefficiencies of the open outcry trading system.\textsuperscript{166} The response by the industry to that conference was harsh.

Leo Melamed, a senior official at the CME and a leading figure in the industry,\textsuperscript{167} published a detailed and passionate defense of open outcry trading in a widely read article published in the \textit{Hofstra Law Review}.\textsuperscript{168} Melamed conceded that the open outcry trading system was not automated but argued that the exchanges were automating the order execution process outside the trading pits.\textsuperscript{169} However, pit executions still required the manual transmission of orders into often overcrowded trading pits by written orders or hand signals and then the orders were bid or offered to the pit orally. After execution, the orders were transmitted back out of the pit manually. Melamed argued that the psychology of the trading pit generated information for price efficiency and brought liquidity to the market from the trading by locals.\textsuperscript{170} This was the oft-cited defense of floor trading that continues even today, i.e., the physiological lift from the noise and energy of the trading crowd that inspires traders to take risks.\textsuperscript{171}

The futures exchanges’ defense of their trading floors came under increasing criticism as volume expanded. Pits trading popular financial products became overcrowded and execution times were delayed in high volume periods. The CME’s computer system crashed during trading hours in 1984, causing much confusion,\textsuperscript{172} but

\textsuperscript{166} Conference on Automation in the Futures Industry, June 15, 1977, Washington, D.C.
\textsuperscript{169} Melamed stated:

\begin{quote}
[It does not take many visits to realize that futures markets utilize every available form of modern technology, and that they have done so at great expense and much more quickly than their counterparts in the securities field. From the time a futures order is placed with an account executive or registered representative anywhere in the world to the time its execution is reported back, the transaction passes through many sophisticated electronic systems. Highly advanced technology is utilized to process the order, quotation, transaction, and confirmation and to complete the back-office requirements of the brokerage firm.
\end{quote}

\textit{Id. at} 149-50.
\textsuperscript{170} Id. at 159-60.
\textsuperscript{171} See Niko Koppel, \textit{In Chicago, a Rowdy Trading Scene Grows Quieter}, \textit{N.Y. Times}, Oct. 29, 2007, at A10 (stating that floor traders on the exchanges continue to make such arguments). Electronic trading creates a new dynamic. As an anthropologist noted in studying these new arrangements:

\begin{quote}
The designers of the computer interfaces and dealing rooms were promoting a relationship to the market based on observation and more explicit analysis. Traders were now expected to watch the market and act on it, rather than being the market and acting in it. The technological possibilities of digital systems raised the interconnected problems of how the material form of the market and human form of market reason should be related.
\end{quote}

capacity constraints were an even more pressing issue.\textsuperscript{173} John Conheeney, chairman of Merrill Lynch Futures, then noted that “[t]here isn’t a person in the industry who wouldn’t agree that the system is breaking down, but we don’t see any concrete moves toward a solution, which is the most frightening aspect of the problem.”\textsuperscript{174} Conheeney concluded that merely adding more space on the trading floors, as the exchanges were then planning, was not the solution,\textsuperscript{175} but he also asserted that “black box” computer trading “lacks the vital human element that makes a market work.”\textsuperscript{176} He asserted that “‘pit psychology,’ eye contact and the chemistry between traders, was often as important in determining prices as the market’s technical factors and fundamentals of supply and demand.”\textsuperscript{177}

More presciently, Gerald Tellefsen, senior vice president of the consulting firm of Booz Allen & Hamilton, Inc., stated in response to Conheeney’s recommendations that:

There is little chance of any progress toward any solution until their trading system falls apart; until their physical and financial pains become unbearable, which may be sooner than many of them think. While the futures industry has been and will remain the most innovative sector of the marketplace, it is also the most tradition-bound. Thus, the exchange members will not automate, for cultural reasons as well as the fear that they will lose control over their markets. . . . Eventually, futures trading will have to be automated, because their business is fast becoming global in scope. Whether or not the new innovators will, as the domestic automakers learned the hard way, come from overseas, the losers will fight it at every turn and be unprepared for its inevitable introduction.\textsuperscript{178}

The futures exchanges continued their ostrich-like approach to automated executions, but demand was growing for extended trading hours. Trading floors were open only for a limited number of hours permitted by the stamina of the floor traders, but that left market participants stranded until the next trading day. Worldwide events with market effect often occurred after the close of trading, but traders were helpless until the opening of trading on the next day and, therefore, sought access to trade outside the regular trading hours.\textsuperscript{179} Futures exchanges and securities intermediaries sought to

\textsuperscript{173} See H.J. Maidenberg, Futures/Options; Automation In Trading, N.Y. TIMES, Dec. 10, 1984, at D4 [hereinafter Maidenberg, Automation] (noting the “increasing congestion on the exchange floors”).

\textsuperscript{174} Id. Inefficiencies in order execution can occur on exchange floors with large crowds, which can fragment when a crowd becomes so large that actors are unable to communicate effectively and efficiently. See Wayne E. Baker, Floor Trading and Crowd Dynamics, in THE SOCIAL DYNAMICS OF FINANCIAL MARKETS 107, 118 (Patricia A. Adler & Peter Adler eds., 1984). Upon exceeding a critical mass, like those in financial products such as the CME’s eurodollar contract or the CBOT’s treasury bond contract, the effectiveness of traders’ communication with each other on the exchange floor declines. See id.

\textsuperscript{175} H.J. Maidenberg, Futures/Options; Big Growth in Orders Paralyzing Trading Pits, N.Y. TIMES, Mar. 19, 1984, at D6 [hereinafter Maidenberg, Growth].

\textsuperscript{176} Maidenberg, Automation, supra note 173.

\textsuperscript{177} See id.

\textsuperscript{178} Maidenberg, Growth, supra note 175. There was some tension between the floors and firms like Merrill Lynch that handled customer orders for futures contract. They would like to internalize and match that order flow “upstairs,” thereby bypassing the floor. Another Unspecial Study: The SEC’s Market 2000 Report and Competitive Developments in the United States Capital Markets, 50 BUS. LAW. 485, 513 & n.120 (1995).

\textsuperscript{179} See Click Boom: How Electronic Trading Served As A Catalyst In The Creation Of CME Group, CME
capture the additional revenues this interest represented by extending trading hours with three basic options: offering open outcry sessions at night,\textsuperscript{180} establishing exchanges in non-U.S. jurisdictions with local partners,\textsuperscript{181} and later developing electronic trading systems.

The demand for extended trading hours led to a linkage between the CME and the Singapore International Monetary Exchange (SIMEX) in 1984.\textsuperscript{182} That link allowed trades to be opened on the SIMEX in the evening and reciprocally closed on the CME on the next day or at some other time.\textsuperscript{183} The SIMEX link was a substitute for computerized executions, but it was limited in scope of the futures covered and still was tied to the floor trading operations of CME members.\textsuperscript{184}

The International Futures Exchange Ltd. (Intex) was created in 1984 by a former Merrill Lynch executive to operate as the first computerized commodity exchange.\textsuperscript{185} It was based in Bermuda in order to avoid the delay of seeking contract market status from the CFTC.\textsuperscript{186} Intex traded futures on gold and other commodities and cleared its trades through the London International Commodity Clearinghouse.\textsuperscript{187} Intex was not particularly successful, but it signaled the future.\textsuperscript{188}

The demand for after-hours trading continued to grow. In 1987, the CBOT began open outcry sessions at night, but those sessions were sparsely attended.\textsuperscript{189} The CME’s response came in 1989 with its development of a computerized trading system called Globex (global exchange) with Reuters Holdings P.L.C.\textsuperscript{190} This system matched buy and sell orders on the basis of time and price after the trading pits closed.\textsuperscript{191} The CBOT responded to Globex with an announcement that it was developing its own computerized trading system, named Aurora, that would compete with Globex and pose no threat to floor traders during normal trading hours.\textsuperscript{192} Aurora never really got off the ground, and the CBOT joined Globex.\textsuperscript{193}

\textsuperscript{181} See Dale A. Oesterle, The SEC’s Assault On Electronic Trading, REGULATION, Summer 1998, at 17, 18 [hereinafter Oesterle, Assault] (stating that the “NYSE, since 1991, has had an after-hours crossing system . . . with automatic execution of single-stock orders and baskets of stock”).
\textsuperscript{185} As one newspaper report noted:
Globex’s limitations caused it to struggle to obtain a profit, and the CBOT withdrew from the venture in 1994. In the meantime, the CBOT and CME’s share of futures and options trading also continued to plummet, dropping from about 75% of all futures trading in 1987 to under 50% in 1992. In particular, competition from new exchanges abroad was fierce. One such upstart was the London International Financial Futures Exchange (LIFFE) that began trading in 1982. It initially modeled its trading operations after those in Chicago, utilizing open outcry pit trading for order executions, but later became an all-electronic exchange. More competition from Europe would follow. A 1992 New York Times article noted that “[t]he [American] exchanges have been losing ground to the approximately 50 exchanges outside the United States, about half of which have been founded since 1985. Off-exchange deals between banks and other institutional investors are also a rapidly growing part of the derivatives business.”

The CBOT opened a new trading floor in 1997 that was supposed to employ the newest technology, but it remained devoted to open outcry trading in the pits. New innovations were added elsewhere in the industry. Floor brokers adopted “Electronic Clerk” and “Cubs” devices that allowed them to receive orders electronically in the

The Board of Trade pursued a wide range of actions aimed at sustaining pit trading, including investing in electronic systems that would handle some of its products during hours when the pits were closed.

The most ambitious of those investments, a joint venture with the Chicago Mercantile Exchange and Reuters to start a worldwide computer-based trading system called Globex, floundered both before and after the Board of Trade dropped out in 1994.


Id.

Id. The most visible example of an exchange’s effort to sustain its existence by developing an electronic trading system is that of the LIFFE, which transformed itself from an open outcry based exchange to an electronic exchange exclusively. See Sun Microsystem, *Best Practices: Exchanging Electronically at Record Pace*, Nov. 2005, http://www.sun.com/solutions/documents/articles/fn_liffe2_aa.xml (describing Sun’s role in the transformation of LIFFE’s exchange environment from open outcry to electronic trading via LIFE CONNECT® in less than one year).


See Feder, *supra* note 195, at 41 (discussing the updated technology and tradition of open outcry trading).

Feder, *Primal Instinct*, supra note 193, at 41.

pits, seeking to obviate the need for phone clerks and “runners” who had traditionally relayed customer orders into the pits either in writing or by “flashing” to the floor broker through hand signals. Those efforts did not succeed in meeting the competition from foreign exchanges that were becoming increasingly all electronic. The Deutsche terminborse, now called Eurex, a joint venture of the Deutsche Borse and the Swiss Stock Exchange, opened as an all electronic exchange in 1989. It took Eurex just two years to eclipse the largest futures exchange in America, the CBOT, in trading volume. Eurex also later bought the International Securities Exchange, an electronic exchange that was the second largest equity options market in the United States. Ironically, futures trading was not legalized in Germany until the 1980s when U.S. brokers successfully advocated a change in German law that had, theretofore, treated futures contracts as prohibited illegal gambling.

Eurex was also competing with LIFFE, which operated a large trading floor and was the largest futures exchange in Europe until Eurex arrived. LIFFE was forced to switch from open outcry trading to electronic trading in 2000. Similarly, “[i]n France, Matif, the derivatives exchange that is a unit of the Paris bourse, tried to offer both electronic and open-outcry trading in April 1998. A month later, most trading migrated to computers and the trading floor was shuttered.”

The Chicago exchanges only slowly awakened to this threat, but by the end of the last century, even Leo Melamed, the most ardent defender of open outcry trading, was in full retreat. He sounded the tocsin for this pull back in a May 1999 address at an industry conference in New York. Melamed faulted the regulatory structure for the erosion of U.S. market share in futures trading, but he also stated that “[i]f the futures exchanges fail to quickly embrace current technological and competitive demands, . . . then our exchanges may well be doomed.”

The Chicago exchanges were still sluggish in their response to the electronic threat. They began a desperate effort to link with foreign electronic markets in order to cling to their remaining businesses. The CME announced a link with Matif in Paris, which was then combined with its SIMEX program. The CBOT initially linked with Eurex, but
then abandoned that arrangement for an electronic platform operated by LIFFE, which was then a unit of the pan-European exchange Euronext, the subsequent merger partner of the NYSE.  

In response, Eurex announced that it was opening its own exchange in the United States to compete directly with the Chicago exchanges. The Chicago exchanges then sought unsuccessfully to block Eurex from being designated as a contract market by the CFTC, which happened in 2004.

Domestic electronic futures exchanges were also appearing. FutureCom Ltd. submitted the first application to the CFTC to be designated as a contract market for Internet trading only. BrokerTec Futures Exchange, an electronic futures market, had tried to compete with the CBOT but gave up when Eurex decided to compete directly in the United States with the CBOT. The New York Cotton Exchange merged with the Coffee, Sugar and Cocoa Exchange to become the Board of Trade of New York. It entered into a joint venture with Cantor Fitzgerald, a New York government securities trader, for the creation of an electronic futures exchange, the Cantor Financial Futures Exchange (CFFE), which would compete with the CBOT floor traders. The CBOT quickly announced that it was opening its own electronic market in those contracts. Neither electronic trading system did very well, but CFFE responded with a completely interactive electronic trading platform.

Several other electronic futures markets followed, including CBOE Futures Exchange, HedgeStreet, NQLX, OneChicago, and U.S. Futures Exchange. The Intercontinental Exchange (ICE), an electronic exchange based in Atlanta, Georgia, became a major global marketplace for trading futures and OTC energy derivative contracts. The Chicago exchanges were paralyzed by this competition and exchange politics became divided between those favoring electronic trading and those seeking to preserve open outcry trading. In a hotly contested election in 1998, one candidate was labeled by his opponent as the “President of the Flat Earth Society” for his defense of the pitch of trading desks on the floor, but the real criticism of his campaign was his desire to preserve open outcry trading and the value of exchange memberships that were then plunging in price. Opponents of electronic trading narrowly won that election, unseating the

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216. MARKHAM, NEW MILLENIUM, supra note 92, at 274.
217. Board of Trade Rival Going Out of Business, N.Y. TIMES, Nov. 13, 2003, at C10 (describing BrokerTec Future’s decision to stop doing business).
220. MARKHAM, NEW MILLENIUM, supra note 92, at 274.
221. MARKHAM, ENRON, supra note 215, at 541-42 (listing the electronic futures markets).
222. See Heather Timmons, Nymex Abandoning Plans For British Futures Market, N.Y. TIMES, Jan. 24, 2007, at C4 (describing competition between ICE and the NYMEX, the leading traditional exchange for energy products).
incumbent who was seeking to modernize the exchange with more electronic trading. Compromise followed in the form of side-by-side trading of contracts electronically and in the pits. However, that was only a compromise, not a winning strategy in the new world of all electronic trading.

More pressure for electronic trading arrived in 1989 after a massive FBI sting operation on the CME and CBOT exposed widespread fraud and questionable trading activities. Those practices were made possible by archaic trading practices on the floor that involved “dual” trading floor brokers and floor traders (“locals”) and the lack of an adequate audit trail that shielded those activities. Former senator (and briefly vice presidential candidate) Thomas Eagleton made headlines by resigning from the CME board after charging that the exchange was driven with conflicts of interest. He recommended that the trading floor be replaced with an electronic trading system that would provide a better audit trail.

Competition appeared from another source in the form of the OTC market in derivatives that exploded in the last part of the twentieth century. The swap became a classic in finance within ten years of its introduction in 1981. A new phenomenon also appeared—the OTC derivative. Unfortunately, trading in over-the-counter foreign currency derivatives began with some boiler room operations fraudulently selling derivative products disguised in a manner to avoid CFTC regulation. The CFTC continues to wrestle with that problem, particularly in currency trading.

224. Barboza, supra note 203, § 3, at 1.
227. See Jerry W. Markham, Prohibited Floor Trading Activities Under the Commodity Exchange Act, 58 FORDHAM L. REV. 1, 1 (1989) (describing that sting operation. Recently, a Nymex floor trader, who was also a former exchange official, pleaded guilty to criminal charges for engaging in such activities on the floor of that exchange. 7 Are Charged in Illegal Trading Inquiry at Nymex, N.Y. TIMES, Apr. 9, 2008, at C2.
231. See generally Markham, Regulation, supra note 46 (describing problems with derivative instruments).
232. The CFTC had sought to regulate the OTC currency market by deeming it to be a “board of trade” within its jurisdiction. See Trading in Foreign Currencies for Future Delivery, 50 Fed. Reg. 42983 (Oct. 23, 1985) (regulating currency market); Thomas A. Tormey, A Derivatives Dilemma: The Treasury Amendment Controversy and the Regulatory Status of Foreign Currency Options, 65 FORD. L. REV. 2313 (1997) (describing the CFTC’s effort); Camden R. Webb, Salomon Forex, Inc. v. Tauber—The “Sophisticated Trader” and Foreign Currency Derivatives Under the Commodity Exchange Act, 19 N.C. J. INT’L L. & COMM. REG. 579, 594 (1994) (same). However, the Supreme Court ruled that the CFTC had gone too far in that effort. Dunn v. Commodity Futures Trading Comm’n, 519 U.S. 465 (1997) (exempting “‘off-exchange’ trading in options to buy or sell foreign currency” from CFTC regulation). The CFTC then sought and obtained corrective legislation
firms were also exploring OTC derivatives during the CFTC’s formative years. The CFTC resisted that effort and sought to regulate these then-designated “hybrid” instruments if their options or futures elements outweighed their securities elements.

The CFTC was reluctant to create a commercial trader exception that would allow OTC derivatives to be traded by institutions or sophisticated traders,” such as that employed by the SEC under the federal securities laws for “accredited investors.” However, the swaps market expanded so quickly that Congress and the CFTC adopted such an exemption for swaps. An exemption was also granted for the Brent oil market that had been handicapped by a district court ruling that it was a futures exchange, a decision which would have required it to register as a contract market and destroy its viability in the United States. The OTC derivative market continued to expand even after a series of large losses by numerous institutions, including the destruction of the venerable Barings Bank by a rogue trader.

The open outcry trading systems on the futures exchanges’ floors were clearly being overwhelmed as the new century began. Responding to those competitive threats, the CME and CBOT merged their clearing operations in 2003, and both the CME (in 2002) and the CBOT (in 2005) demutualized and became public companies. Still, the percentage of open outcry trades declined between 2000 and 2007 from 90% to 22%. Recognizing that the end was near, the CBOT and CME merged all of their operations in 2007. That merger was nearly spoiled by a competing bid from ICE for the CBOT in

that requires OTC currency trading to be conducted through regulated financial institutions or between institutional participants. See Commodity Futures Trading Comm’n v. Gibraltar Monetary Corp., No. 04-80132-CIV, 2006 WL 1789018, at *19 (S.D. Fla. May 30, 2006) (describing that legislation). However, the CFTC suffered another setback after the Seventh Circuit ruled that speculative transactions in foreign currency were “spot” transactions that were outside the CFTC’s derivative instrument jurisdiction. Commodity Futures Trading Comm’n v. Zelener, 373 F.3d 861, 869 (7th Cir. 2004).


234. The CFTC had, early on, created an exception from its suspension of OTC options trading after retail market abuses became rampant. Markham, Futures Trading, supra note 53, at 196. However, it rejected a petition from Merrill Lynch seeking an accredited investor exception for OTC currency trading. See Letter to the Office of the CFTC Secretary from Merrill Lynch & Co. Inc. (Dec. 23, 1985) (on file with the authors); Salomon Forex, Inc. v. Tauber, 8 F.3d 906 (4th Cir. 1993), cert. denied, 511 U.S. 1031 (1994) (rejecting the CFTC position).


238. See Markham, Protecting, supra note 93, at 358-63 (describing those losses).


240. Barboza, supra note 203, § 3, at 1.


the amount of $11.9 billion, but in the end ICE lost out to the CME. After their merger, the CME and CBOT announced that they were consolidating their trading floors and would be shifting several contracts to their electronic trading platform (Globex), including agricultural products such as the once very popular frozen pork belly futures contract.

Resistance on the floor to electronic trading remained. One trader vowed not “to go down without a fight,” and that “[t]hey’re going to have to turn the lights out to get us to trade electronically.” Their resistance was aided by no less a personage than former Federal Reserve Board Chairman Alan Greenspan. In March 2007, Greenspan asserted at a futures industry conference that the open outcry system of trading is still “the optimum model” because, while computers are useful, human beings always prefer personal interactions and that, therefore, open outcry markets will always be around. However, the growth of electronic trading is calling that claim into question in both the securities and commodity futures industries.

Smaller commodity exchanges were also struggling. For example, the KCBOT began offering electronic trading of agricultural products alongside floor-based trading in August 2006. The KCBOT’s volume increased, but relative to other major exchanges and similar products, it failed to keep pace. Crop size alone suggests that the KCBOT is

245. **Pit Trading to End for Pork Bellies And Selected Products in Chicago**, N.Y. TIMES, Aug. 29, 2007, at C7. The CME website now notes that:

The CME open outcry platform and trading floor systems are linked to the CME® Globex® electronic trading platform, which allows market participants to buy and sell whether they’re sitting at trading booths on our Chicago trading floors, working at offices or homes thousands of miles away, or making trades during and after regular trading hours. At CME, some traders prefer face-to-face interaction on the CME trading floors while an increasing number prefer to trade electronically.


248. Former Chairman Greenspan was less sanguine on the future of open outcry in his autobiography. There he stated:

[T]he never-ending jockeying for advantage among traders is continuously rebalancing supply and demand at a pace too fast for human comprehension. The trades, of necessity, are thus becoming increasingly computerized, and traditional “outcry” trading on the floors of stock and commodity exchanges is rapidly being replaced by computer algorithms.

ALAN GREENSPAN, **THE AGE OF TURBULENCE, ADVENTURES IN A NEW WORLD** 350 (2007).

249. The KCBOT, CBOT, and Minneapolis Grain Exchange all share the same electronic platform trading service provider. Before 2007, their provider was LIFFE Connect; since the CBOT’s Merger with the CME, the exchanges use the Globex® platform. See Press Release, CME Group, Inc., CME Group to Host KCBT, MGEX Electronic Trading on CME Globex (Jan. 11, 2008), available at http://cme_group.mediaroom.com/index.php?s=43&item=672. Each exchange began offering electronic trading in agricultural products on a side-by-side basis the same month, August 2006. The exchanges, however, charge their customers different rates for trades executed electronically and on the floor of the respective exchange. See, e.g., KCBT, Exchange Contract Fees, http://www.kcbt.com/fees.html (last visited Apr. 27, 2008) (identifying non-member exchange open outcry fee for wheat futures of $0.55 per contract and non-member electronic fee for wheat futures of $1.70 per contract).
under-achieving. Although the index trader is trading KCBOT wheat, it is doing so far less than it is at other exchanges. The U.S. Department of Agriculture calculated that the United States produced 930 million bushels of hard red winter wheat (HRW) for the 2005-2006 crop-year and 309 million bushels of soft red winter wheat (SRW) for the same period. Converting these numbers, the U.S. production of HRW translates into an open interest of 185,000 contracts. Despite the fact that the United States produced roughly 300% more HRW than SRW for the 2005-2006 crop year, open interest in the CBOT’s wheat contract exceeded the KCBOT’s contract by 325%. Moreover, the CBOT’s open interest in wheat has increased by more than 45% since January 2006 while the KCBOT’s open interest in wheat has declined by 22% during that same period.

B. Automation Arrives in the Securities Industry

The securities industry appeared in some ways more receptive than the futures industry to technological changes. Although often accused of being hidebound, the NYSE was not oblivious to the need to adopt new technology into its operations. That exchange spent over $1 billion on technology between 1982 and 1995, allowing it to cut order execution time dramatically. Those improvements allowed the NYSE to handle daily order flows in excess of 1.4 billion shares as the market surged at the end of the last century. That was in stark contrast to the 10 million share trading days that almost destroyed the NYSE during the 1960s “paperwork crisis” and the 600 million share days that shut down the trading floor in October 1987.

Tom Russo, a senior executive at Lehman Brothers with experience in both the futures and securities industries, has noted that, “[w]hile no futures exchange had yet taken major steps in the field of automation, the New York Stock Exchange was making some progress. In 1976, it launched the DOT (Designed Order Turnaround) system, followed by the Super-DOT system in 1984.” Super-DOT allowed the transmission of

254. MARKHAM, NEW MILLENNIUM, supra note 92, at 209.
256. See Kurt Eichenwald, Robert William Haack, 75, Dies; Led Stock Exchange During Crisis, N.Y. TIMES, June 16, 1992, at B8 (discussing Haack’s efforts to help the exchange move past the crisis it experienced in the late 1960s that was caused by the large amount of paperwork created by trading over 10 million shares daily).
258. Thomas A. Russo, Vice Chairman & Chief Legal Officer, Lehman Bros., A Tribute to Leo Melamed
orders to buy and sell to the specialist electronically. “The orders appear on a special electronic workstation often referred to as the ‘display book.’ Each Specialist Firm has a computerized ‘display book’ at its trading post that permits the Firm to execute orders for the market.” The Super-DOT system was handling “some 80 percent of the NYSE’s transactional volume” by 1992, reaching 90% of volume in 2000, but large trades were still manually walked to the specialist post by a floor broker for execution.

Other electronic improvements in the securities industry included automated systems for broker-dealer back-office processing of securities transactions and improved screen-based information services provided to broker-dealers by private vendors such as Reuters, Quotron Systems, Telerate, Automatic Data Processing, Knight-Ridder, and Bloomberg. However, these improvements did not create an electronic exchange; rather, it was called “computer assisted trading” (CAT), to signify that the technology was merely aiding, not replacing, the specialist. Signifying that distinction, a special edition of Life Magazine published in 1992 to celebrate the bicentennial of the founding of the NYSE contained an article decrying the growth of electronic trading and defending the trading floor. Mimicking Melamed’s defense of open outcry trading in the futures industry, the article stated that:

This, it seems to me, is the biggest problem with electronic trading and what it portends. . . . Do we advance business by making it more faceless and impersonal? Such a world not only threatens to overwhelm us with market choices, time zones and currencies, it likewise cuts us out of the deal as social creatures. It only further distances us from the rich and varied human affairs that are as much the soul of business as they are the essence of the social and inner life.

However, a warning had already been sounded by a congressional staff study in 1990, which noted that “financial information vendors may move toward offering transactional services using automated execution systems.” One such effort, GEMCO, had failed but the Instinet Corporation was more successful. Created in 1969 as the


259. In re NYSE Specialists Sec. Litig., 503 F.3d 89, 92 (2d Cir. 2007).


261. NYSE SPECIAL COMM. ON MKT. STRUCTURE, supra note 31, at 24.


263. BULLS AND BEARS, supra note 28, at 130-33. For a description of the Bloomberg information system, see MICHAEL BLOOMBERG, BLOOMBERG BY BLOOMBERG (1997).

264. MARKHAM, NEW MILLENNIUM, supra note 92, at 218. For a description of those trading support systems, see BULLS AND BEARS, supra note 28, at 130. The Toronto Stock Exchange, for example, used a CAT system that matched orders but had a market maker providing liquidity if orders were non-matching. Id. at 63.


266. BULLS AND BEARS, supra note 28, at 136.
For Whom the Bell Tolls

Institutional Network Corporation, Instinet was later acquired by Reuters and began offering an electronic securities trading system that was executing an average of 13 million shares a day in NYSE and Nasdaq stocks as the 1990s began. Instinet allowed broker-dealers and institutional traders to indicate their interest in purchasing or selling NYSE or Nasdaq securities. Participants could then respond to those indications of interest by making bids or offers. Instinet would then process and report executions. Orders were not publicly disclosed, protecting the identity of the institution in the trade. Instinet was processing 170 million shares per day at the end of the century. Twenty million of those trades were executed before and after traditional trading hours.

Automation was seemingly more prevalent in the OTC market. Nasdaq was itself an electronic “quotation” system that was developed in the 1960s after a special study of the securities markets by the SEC staff suggested the desirability of such an automated system to replace the manual printing of quotes circulated to broker-dealers through the “Pink Sheets.” Nasdaq employed competing market makers, rather than a specialist auction system. Nasdaq was broken down into tiers: the National Market System (NMS) for larger companies, a SmallCap Market for small and medium size companies, and a Bulletin Board for illiquid securities.

Nasdaq did not initially provide for the automated execution of orders. Rather, a broker observing a quote on a computer screen for a stock posted on Nasdaq would contact the posting broker and negotiate the trade. Nasdaq developed a Small Order Execution System (SOES) for the automatic execution of small customer orders, but large trades still were negotiated orally with the market makers. Another improvement was SelectNet, a screen-based trading system that allowed NASD members to enter and negotiate the terms of trades through that computer system. The Nasdaq market became successful. By 1992, Nasdaq volume was accounting for some 42% of total share volume on all U.S. markets.

268. Id. Instinet’s ECN operations were later purchased by Nasdaq. Its remaining business was sold to a private equity group, Silver Lake Partners, which flipped it shortly after its acquisition by selling it to Nomura Holdings, Inc., a large Japanese brokerage company. Peter Edmonston, Private Firm Sells Broker and Makes Quick Profit, N.Y. TIMES, Nov. 3, 2006, at C3.
276. Id. at 19.
277. Id.
Like the futures exchanges, both Nasdaq and the NYSE encountered scandals in their market-making operations. After Nasdaq market makers fled to avoid their market-making responsibilities during the Stock Market Crash of 1987, the NASD required all market makers to participate in SOES and increased penalties for unexcused withdrawals. This gave rise to the so-called “SOES Bandits” who entered orders in response to market movements before the Nasdaq market makers were able to update their SOES quotes.279 This was made possible by the development of Internet trading by retail customers.

The NASD tried to help the Nasdaq market makers by barring “professional” traders from using SOES, but a court of appeals held that the rule was too vague.280 Other efforts by the NASD also failed to deter the SOES Bandits, so the market makers began taking their own actions to stop the bandits’ attacks. The effect of the market makers’ response was revealed in an economic study published in 1994. It found that the spreads quoted by Nasdaq market makers were extraordinarily wide and suggested that they were the result of collusion among market makers.282

The Justice Department then brought an antitrust action against the market makers.283 The SEC also investigated and found a number of improper practices on the part of those market makers.284 Among other things, the SEC found that bids and offers displayed by market makers on Instinet and another ECN were almost always better than those they posted publicly on Nasdaq.285 This meant that the market makers had created a two-tiered market in that retail customers using SOES were receiving less competitive prices than the institutional traders that could access ECNs.

As a result of this scandal, the NASD was censured by the SEC and agreed to spend

278. Hershey, supra note 255, at C10 (describing a day where turnover on the Nasdaq was 2.53 billion shares and turnover on the NYSE was 1.43 billion shares).

279. The SOES Bandits operated as follows:

The [SOES] traders would . . . monitor news developments constantly and use the instantaneous execution feature of the SOES to purchase shares before the market makers-who frequently handle many stocks-could adjust their quotations to reflect the new information. By executing within a few seconds as many as five orders for up to 1,000 shares each and liquidating the position shortly afterward at the new market price, a trader could profit handsomely at the expense of the market maker.

Timpinaro v. SEC, 2 F.3d 453, 455 (D.C. Cir. 1993).

280. Although large broker-dealers were developing ECNs to compete with the exchanges, many of those same broker-dealers had fiercely resisted Internet trading for their own customers. As a result, discount brokers were able to grab much of that business. MARKHAM, NEW MILLENNIUM, supra note 92, at 294-97.

281. Timpinaro, 2 F.3d at 460 (describing the rise in online trading).


284. Id. at 883-84; see JERRY W. MARKHAM & THOMAS L. HAZEN, BROKER DEALER OPERATIONS UNDER SECURITIES AND COMMODITIES LAW: FINANCIAL RESPONSIBILITIES, CREDIT REGULATION, AND CUSTOMER PROTECTION § 9.1 (2d ed. 2006) (describing those practices).

$100 million to improve its self-regulatory program. The NASD was also reorganized to obviate any conflicts between its role as the promoter of Nasdaq and its self-regulatory responsibilities. A separate subsidiary was given primary responsibility for regulatory matters. Another subsidiary was given responsibility over Nasdaq. Numerous Nasdaq market makers were also sanctioned for their role in this scandal.

Scandal also arrived on the floor of the NYSE. Floor brokers on the NYSE were engaged in “flipping” and “trading for eighths,” a practice that the NYSE was aware of at the time but did not stop. These practices involved the execution of opposite customer orders against a third party account, allowing them to obtain a profit on the spread between the bid and the ask as well as commissions for executing the trades. Several floor brokers and their clerks pleaded guilty to criminal charges for that conduct. An even larger scandal arose over conduct by NYSE specialists. An SEC investigation discovered that NYSE specialists were trading ahead of customer orders and engaging in other misconduct such as front running and “interpositioning” themselves between matchable customer orders in order to create and profit from a spread. Several NYSE specialist firms agreed to pay over $250 million to settle SEC charges over that misconduct. The SEC also brought an action against the NYSE that was settled by the exchange. The NYSE agreed to require all of its directors to be independent directors, create a new Chief Regulatory Officer position, and to hire an independent monitor to oversee its supervision of the floor at a cost of $20 million. The NYSE also agreed to film and tape record the specialists’ operations on the floor during the trading day. Several employees of the specialist firms were indicted for their role in this scandal. The SEC also brought actions against three regional exchanges for allowing their specialists to

287. Floyd Norris, Investors to Get Bigger Role in Running Nasdaq Market, N.Y. TIMES, Sept. 20, 1995, at D1. This reorganization was the result of an NASD internal study headed by former Senator Warren B. Rudman. Id.
289. MFS Sec. Corp. v. SEC, 380 F.3d 611, 613-14 (2d Cir. 2004).
290. Id.; see also Dolgopolov, supra note 88.
291. 2 Ex-Brokers Get One-Week Jail Terms, N.Y. TIMES, Jan. 20, 2000, at C14. Despite their guilty pleas, two of those brokers sued the NYSE claiming that it was aware of and permitted those trading practices on its floor. Convicted Brokers Sue Stock Exchange, N.Y. TIMES, June 28, 2000, at B8.
296. See, e.g., United States v. Hunt, No. 05 Cr. 395(DAB), 2006 WL 2613754, at *1 (S.D.N.Y. Sept. 6, 2006); United States v. Bongiorno, No. 05 Cr. 390(SHS), 2006 WL 1140864, at *1 (S.D.N.Y. May 1, 2006). However, the conviction of one of these employees was set aside because it was not shown that the customers were misled. United States v. Finnerty, 474 F. Supp. 2d 530 (S.D.N.Y. 2007).
engage in similar conduct.297

D. The ECNs Arrive

The ECNs arrived in force in the financial markets beginning in the early 1990s in the form of automated trading systems for institutional traders in the third market.298 In some ways they were actually a creation of the exchanges’ efforts to automate. “Electronic trading”299 encompasses a wide range of systems that facilitate the entry and execution of orders electronically by algorithms.300 The exchanges had employed algorithms for their own trading activities, using different algorithms for different contracts,301 often based on a contract’s liquidity. They include a first-in, first-out allocation system for trade matching, a pro-rata system,302 or a system that combines some elements of each of the above.303 Without the creation of trade-matching algorithms by exchanges, the development of electronic trading systems in the remainder of the financial services industry would have likely stalled.

297.  MARKHAM, ENRON, supra note 215, at 503.


299.  See GROUP OF TEN, BANK FOR INTERNATIONAL SETTLEMENTS, THE IMPLICATIONS OF ELECTRONIC TRADING ON THE FINANCIAL MARKETS 3 (2001), http://www.mtsspa.it/content/news/download/reportcfgs.pdf (defining electronic trading). The broad scope of this definition includes a system that “provides some or all of the following services: electronic order routing (the delivery of orders from users to the execution system), automated trade execution (the transformation of orders into trades) and electronic dissemination of pre-trade (bid/offer quotes and depth) and post-trade information (transaction price and volume data)” Id.

300.  For a description of algorithmic trading in the futures industry see Will Acworth, Algorithmic Trading, Seeking an Edge, FUTURES INDUS. MAG., July-Aug. 2007, at 24. An algorithm has been defined as follows:

1. A fixed step-by-step procedure for accomplishing a given result; usually a simplified procedure for solving a complex problem, also a full statement of a finite number of steps. 2. A defined process or set of rules that leads . . . and assures development of a desired output from a given input. A sequence of formulas and/or algebraic/logical steps to calculate or determine a given task; processing rules.


301.  Exchanges typically employ a series of algorithms to address all of the different order issues the exchange may receive. For instance, the algorithms for recognizing user names or uncrossing orders can be applied to all markets exchange wide.

302.  In pro-rata systems, larger sized orders receive priority over smaller sized orders, regardless of when the exchange accepted the order relative to other orders. See, e.g., CHICAGO BD. OF TRADE, ELECTRONIC TRADING PLATFORM REFERENCE MANUAL 59 (2006) (version 2.2), http://www.cbot.com/cbot/docs/74585.pdf (describing the nine steps in matching trades for its pro-rata algorithm).

303.  See Press Release, Commodity Futures Trading Comm’n, Recognizes New Exchange (Aug. 7, 2003) (announcing the approval of the CBOE Futures Exchange and commenting that its “trading system will match orders based anonymously either on a price-time priority or a pro-rata trade-matching algorithm, each similar to those employed by other automated trading systems at various existing futures exchanges”), available at http://www.cftc.gov/opa/press03/opa4831-03.htm.
Some commentators view the development of trade-matching algorithms as the democratization of the financial markets. They suggest that the adoption of algorithms replaces the “privileged market access,” conferred by open outcry trading and permits exchanges to differentiate between each order, let alone between members and non-members. The exchanges were initially unwilling to use algorithms to replace their trading floor functions. However, where established exchanges did not willingly venture, many “new kids on the block” began filling the void. Participants in these new ventures soon learned the benefits of electronic trading systems and order matching algorithms. These benefits include the reduction in costs and trading errors.

304. See Commodity Futures Trading Comm’n, Tech. Advisory Comm., Best Practices for Organized Electronic Markets 5 (Apr. 24, 2002), http://www.cftc.gov/stellent/groups/public/aboutcftc/documents/file/acinterimmarketaccessreport.pdf (defining privilege market access as “any rule, policy or processing convention of organized markets that discriminates among classes of market participants when providing any of their services, access to their services or access to market critical information”).

305. See, e.g., Chicago Mercantile Exch., Allocation Algorithm for CME Eurodollar Options, http://www.cme.com/trading/get/abt/functionality/edo.html (last visited Oct. 17, 2007) (explaining circumstances where an order in the CME Eurodollar algorithm designates an order with “TOP order status when it betters the current bid (or ask) price and its quantity is at least 50 contracts”). For intermediaries who receive special treatment, see Chicago Mercantile Exchange, Lead Market Maker (“LMM”) Allocation Algorithm, http://www.cme.com/trading/get/abt/functionality/lmm.html (last visited Oct. 17, 2007) (explaining that the “LMM designation is given to those individuals chosen by CME to make a two-sided market in an assigned contract. LMMs enjoy the benefit of LMM matching privileges (a guaranteed allocation percentage of incoming orders, as specified below) and associated pricing concessions in return for meeting CME-determined LMM market obligations”); see also Euronext Liffe, Functional Overview of LIFFE CONNECT® Market-Making Functionalities at 5 (May 22, 2007) (ver. 0.3), available at http://www.euronext.com/fic/000/021/346/213462.pdf (explaining that only user names “that are registered to submit [market making orders] in a contract will be allowed to do so. These [user names] will not be allowed to submit any other order type into that contract”).

306. The appearance of new financial intermediaries is particularly visible in the securities industry where broker-dealers are just as likely as exchanges to develop trade-matching systems. See Oesterle, Assault, supra note 179, at 18 (stating that “an additional 140 broker-dealers operate some type of limited internal computer trading system for their own dealers or customers”). Independent companies created networks for brokers and dealers to execute trades electronically soon after established national exchanges merged. See Ivy Schmerken, New ATSs Arise to Fill a Void, WALL STREET & TECH., Sept. 23, 2005 (discussing the companies that emerged).

307. For instance, one reason ECNs found fertile ground in the equities industry was their ability to engage in the practice of preferencing whereby the broker-dealer directs orders that, in effect, permit the broker-dealer to take the opposite side of a customer’s order, a practice prohibited by the Commodity Exchange Act absent extenuating circumstances. Compare R. 11b-1(a)(2)(ii), 17 CFR 240.11b-1(a)(2)(ii) (2007) (requiring:

as a condition of a specialist's registration, that a specialist engage in a course of dealings for his own account to assist in the maintenance, so far as practicable, of a fair and orderly market, and that a finding by the exchange of any substantial or continued failure by a specialist to engage in such a course of dealings will result in the suspension or cancellation of such specialist's registration in one or more of the securities in which such specialist is registered)

with CFTC Reg. § 155.2(e) (2007) (prohibiting floor brokers “from taking, directly or indirectly, the other side of any order of another person revealed to him by reason of his relationship to such other person, except with such other person’s prior consent and in conformity with contract market rules”). The SEC has noted that:

in its broadest sense, the term preferencing refers to the direction of order flow by a broker-dealer to a specific market maker or specialist, independent of whether or not some form of affiliation or inducement for the direction of order flow exists between the broker-dealer and the market maker
enhancement of operational efficiencies, and benefits associated with risk management. 308

All of the major algorithms share some common characteristics. In particular, they provide for the anonymity of market users, something more difficult to disguise when traders stand face-to-face. Algorithms that survive the exchange development and consolidation phase will strike the right balance of fundamental qualities important to users: anonymity, speed, capacity, and stability. Like any software program, however, these algorithms require regular maintenance and a certain level of revision over time. 309

Non-exchange intermediaries, however, design their algorithms 310 to manage risk 311 and profit from market-making type functions in the exchanges’ electronic environment. 312 These algorithms are most profitable when they buy or sell an exchange’s standardized product as quickly, efficiently, and anonymously as possible. Other algorithms developed by non-exchange intermediaries profit from long-term market movements, often requiring the intermediaries to hold large positions over long periods of time. Often, the non-exchange intermediaries experienced “excessive” costs

or specialist. [Internalization, a subset of preferencing broadly defined, is the direction of order flow by a broker-dealer to an affiliated specialist or order flow executed by that broker-dealer as market maker.]

SEC. & EXCH. COMM’N, REPORT ON THE PRACTICE OF PREFERENCING, available at http://sec.gov/news/studies/prefrep.htm. Often, an intermediary only realizes measurable profits after identifying trading strategies and establishing large positions. Intermediaries regularly saw a reduction in profits, often due to “slippage” in execution and piggybacking of the trading desks through which they execute their orders. See infra note 313 (discussing slippage). Because their strategies require large positions, the amount of time and slippage when executing the orders to establish or liquidate these large positions is magnified.

308. See Ates & Wang, supra note 38, at 683 (observing that “fast execution reduces execution risk. Thus, electronic trading reduces the order processing cost and the overall cost of trading”) (citation omitted); see also CME GROUP, CME GLOBEX: THE WORLD’S LEADING ELECTRONIC TRADING PLATFORM 9 (2007) (stating that monthly volume data for trades executed on CME’s Globex trading platform between 2004 and 2006 shows that “average daily order volume grew by approximately 300%, while the time it takes to get a trade executed decreased by more than 50%”).


310. A non-exchange intermediary’s algorithm differs from an exchange’s algorithm primarily in that the non-exchange algorithm will take a position in the market, long or short, for some period of time. See Karl Finders, supra note 300, at *2 (defining algorithmic trading as any computer system that “buy[s] shares automatically when predefined market conditions are met”).


when executing large orders.\textsuperscript{313} One reason intermediaries encouraged exchanges to adopt electronic trade-matching systems was to reduce these external costs through their ability to execute smaller sized orders and eliminate slippage and piggybacking.\textsuperscript{314}

In contrast, an exchange’s trade-matching algorithm is limited to execution functions. The trade-matching system’s purpose is to provide a central trading environment and predictable methodology for matching buyers and sellers. Critical attributes of these algorithms are their stability and predictability because the non-exchange intermediaries require reliable and consistent responses to their algorithms’ buy and sell signals. Exchanges soon realized that they could tweak their algorithms to maximize profits by providing platforms that execute large sized orders or many orders. Unlike exchanges, intermediaries realize profits from the exchanges’ trade-matching systems and their own order routing systems and trading strategy algorithms. Thus, while the exchanges developed electronic trade-matching systems, intermediaries developed or purchased order routing systems.\textsuperscript{315} These systems are either developed by intermediaries or third parties focused on supplying information technology services.\textsuperscript{316} In addition to these services, the third parties also introduced the patent process, and concomitant litigation, to the commodity futures industry.\textsuperscript{317}

The ECNs were screen-based and were initially regulated as broker-dealers in the securities industry. The SEC did not require them to register as a national securities exchange like the NYSE because they were not making a continuous market in securities.\textsuperscript{318} Registration as an exchange would have imposed self-regulatory and other

\textsuperscript{313} Another strategy employed by intermediaries requires them to establish large positions. Often, an intermediary’s profits are less than anticipated due to slippage in execution:

\[ \text{the effective spread statistics for large, electronically-received market orders in NYSE stocks show significant "slippage"—the amount by which orders are executed at prices inferior to the national best bid or offer . . . at the time of order receipt. Slippage often results in effective spreads for large orders that are many times wider than the effective spreads for small orders in the same NYSE stocks.} \]


\textsuperscript{314} \[ \text{"[T]here are two components in the cost of trading a stock: brokerage commissions and ‘friction’ (i.e., slippage, market impact, liquidity cost, and dealer spread) . . . [F]riction results from the current market structure and averages about ten cents per share for a basket of stocks contained in the S&P 500."} \textit{MARKET 2000}, supra note 89, at A VI-6 (comments of Jeffrey P. Ricker).

\textsuperscript{315} The term “order routing system” originated from the system’s process of directing an order to the applicable pit for execution. Order routing is also commonly referred to as order flow. See Nancy Opiela, \textit{Why Is It So Quiet in the Trading Room? Change in Order Flow Characteristics is Likely Culprit}, CFA MAG., Jan.-Feb. 2004, at 46.

\textsuperscript{316} See id. at 46-47 (quoting Dennis Dick, CFA, Bright Trading, LLC, as saying that “through the course of reducing the number of stocks that they [Charles Schwab] make markets in, they shifted a lot of the handling of order flow to automated systems. This allowed them to ramp back up again with about a 70 percent reduction in personnel.” Dick also sees “the NYSE slowly turning into a [NASDAQ]-oriented market where you have everything trading on an automated system”). Id. at 47.


requirements that those broker-dealers were unwilling to satisfy. By 1994, those proprietary systems were executing about 13% of Nasdaq volume but only about 1.4% of NYSE volume.

Broker-dealers were also operating automated systems that matched customer orders internally, but NYSE Rule 390, until it was repealed, required orders for stocks subject to that rule to be executed on the NYSE. In preserving market share, the NYSE was also reporting record profits in 1993. However, the battle with the ECNs was already joined by Nasdaq where market share would be greatly eroded by their trading. Instinet was processing some 170 million shares a day at the end of the last century. It partnered with several online brokers that were permitting their customers to enter orders through the Internet. In August 1999, Instinet also joined with several large brokerage firms, including Merrill Lynch, Goldman Sachs, and Morgan Stanley, to form Primex Trading N.A., an electronic platform for institutional traders in NYSE stocks, a project Nasdaq also joined. Other ECNs included Wit Capital, OptiMark, Easdaq, POSIT, Tradepoint, the TONTO System, which became Archipelago, Bloomberg Tradebook, the Attain System, MarketXT, the BRUT System, GFINet System, Bridge Trader, the Strike System, and the Trading System.

Charles Schwab, Fidelity Investments, DLIdirect, and Spear, Leeds & Kellogg, a NYSE specialist firm, developed MarketXT, Inc. to trade the more active stocks on the NYSE and Nasdaq. Spear, Leeds & Kellogg also created the REDI System that matched mixed-lot orders. Bloomberg’s TradeBook system traded Nasdaq stocks. The “BRASS Utility System was an ECN that provided automatic execution, clearance and settlement of trades in Nasdaq National Market System and Small-Cap stocks.” The BRUT System matched orders in Nasdaq National Market and Small-Cap securities on an anonymous basis.

Some ECNs grew so big that they sought registration as an exchange in order to compete directly with the traditional markets through their electronic facilities.

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320. MARKET 2000, supra note 89, at 10.
321. Id. at 14.
322. Id. at 12.
323. MARKHAM, NEW MILLENNIUM, supra note 92, at 335.
324. Id.
325. MARKHAM & HAZEN, BROKER DEALER OPERATIONS, supra note 159, § 14.2; see also Macey & O’Hara, supra note 79, at 19 (describing some of these systems).
326. MARKHAM & HAZEN, BROKER DEALER OPERATIONS, supra note 159, § 14.2.
327. Id.
329. MARKHAM & HAZEN, BROKER DEALER OPERATIONS, supra note 159, § 14.2.
330. Id.
331. See, e.g., Shanny Basar, Bats Trading Files for Exchange Status, FIN. NEWs ONLINE, Nov. 6, 2007,
“Archipelago Holdings LLC became a stock exchange through an arrangement with the Pacific Exchange.” Island ECN was a leading ECN at one point. It applied to the SEC to become a stock exchange, and “the CFTC approved the designation of Island Futures Exchange, LLP as a contract market in February of 2002.” The Cincinnati Stock Exchange, an electronic stock exchange that was trading Nasdaq stocks entered into a linkage agreement with Island ECN, the largest electronic communications network. Reuters PLC, the then owner of the Instinet Group, Inc., bought Island ECN. Those two firms accounted for about 22% of Nasdaq listed stocks.

More competition was added when the SEC allowed a London ECN to operate in the United States without requiring it to register as a national securities exchange under the Securities Exchange Act of 1934. This led the NYSE and Nasdaq to seek linkages to markets in London, Paris, Tokyo, Mexico, Sao Paulo, Amsterdam, and elsewhere. Globalization was ripe for exploitation by foreign ECNs because they had the ability to overcome the “home bias” that had caused American investors to favor domestic exchanges. This was because the ECNs were simply mathematical models that were pretty much unaffected by government intervention or uncertain rule interpretations:

In electronic systems, the algorithm that matches orders or trades constitutes the trading and execution rules that govern the priority and manner of trading. This leaves no room for disputes as to the applicability of the trading rules contained in the system. . . . This eliminates disputes about the validity of, or uncertainty as to the legality of, that interest.

E. Nasdaq and NYSE Responses

In 2000, SEC Chairman Arthur Levitt noted that ECNs “have provided investors with greater choices, and have driven execution costs down to a fraction of a penny. As a result, these networks present serious competitive challenges to the established market

http://www.financialnewsus.com/index.cfm?page=ushome&contentid=2349117265&printview=true (last visited May 26, 2008) (quoting Joe Ratterman, CEO of Bats, as saying: “Our motivation to become an exchange stems from our desire to participate directly in the national market system. We also desire to be on the same regulatory playing field as our primary competitors, Nasdaq and the New York Stock Exchange”).

332. MARKHAM & HAZEN, BROKER-DEALER OPERATIONS, supra note 159, § 14.2.
333. Id.
334. Id.
335. Id.
336. Id.
339. “Home bias is the parochial tendency of investors to invest their savings in their home country, even though this means passing up more profitable foreign opportunities.” GREENSPAN, supra note 248, at 350.
centers.\footnote{341} Some regional exchanges in the United States adopted electronic trading in whole or part in response to this competition. The Midwest Stock Exchange changed its name to the Chicago Stock Exchange and became an all-electronic exchange trading Nasdaq, NYSE, and AMEX stocks through the Internet.\footnote{342} The options exchanges also experienced the effects of ECN competition. The Boston Options Exchange was all-electronic and the AMEX began electronic trading in its options in 2004. A proposed merger between the CBOE and the Pacific Exchange had to be called off because of Justice Department antitrust concerns.\footnote{343}

Nasdaq was reeling from ECN competition.\footnote{344} In 2002, ECNs accounted for some 70\% of Nasdaq volume.\footnote{345} Nasdaq demutualized in order to gain access to a larger capital base. Nasdaq sold a portion of itself in private placements before registering for its initial public offering.\footnote{346} Nasdaq began competing with the ECNs through its own SuperMontage electronic trading program developed over the objections of competitors and at a cost of over $100 million.\footnote{347} Nasdaq subsequently went a step further and bought Instinet’s ECN operations for about $1.9 billion in April 2005, after the NYSE announced its merger with another ECN, Archipelago Holdings Inc.\footnote{348} Nasdaq also tried to stem its loss of market share by mergers, first with the AMEX in 1998. A merger with the Philadelphia Stock Exchange (PHLX), the nation’s first stock exchange, initially fell through, but Nasdaq did later acquire it,\footnote{349} as well as the Boston Stock Exchange.\footnote{350}

More competition emerged from abroad. The London and Frankfurt stock exchanges merged,\footnote{351} and they entered into a linkage with Nasdaq.\footnote{352} The Canadian exchanges Montreal, Vancouver, Toronto, and Alberta reorganized into a Pan-Canadian exchange.\footnote{353} Nasdaq responded by acquiring control of OMX, a Nordic market operator, in a joint venture with Borse Dubai for almost $5 billion.\footnote{354} However, Nasdaq failed in

\footnotesize{\begin{itemize}
\item 342. MARKHAM, INTERNET, supra note 338, at 331.
\item 343. Id. at 252.
\item 348. Edmonston, supra note 268, at C3.
\item 349. Reuters, Nasdaq to Add An Exchange, N.Y. TIMES, Nov. 8, 2007, at C7.
\item 350. Id.
\item 351. Charles Schumer, A Shot Across the Trading Floor, N.Y. TIMES, May 5, 2000, at A27.
\item 353. MARKHAM, INTERNET, supra note 338, at 331.
\end{itemize}}

The NYSE had successfully resisted competition from the ECNs until a scandal arose concerning the $187 million retirement package given to its CEO, Richard Grasso, in 2003.\footnote{Jenny Anderson, \textit{Grasso's biographer discovered that his dismissal by the NYSE board of directors was spearheaded by Henry Paulson, an NYSE board member and CEO of Goldman Sachs. Paulson had led an earlier effort to undermine the NYSE trading floor through a central limit order book (CLOB). See infra note 389 (describing CLOB). At the time, Goldman Sachs was an investor in Archipelago Holdings. Grasso believed that Paulson was then trying to destroy the NYSE trading floor and strongly resisted Paulson’s efforts. Paulson is now Secretary of the U.S. Treasury Department. For Whom the Bell Tolls, 909} Under Grasso, NYSE volume had exploded, the exchange was still executing 85% of transactions in its listed stocks, the price of NYSE seats had doubled, and the exchange had total profits of over $2 billion between 1995 and 2000.\footnote{See Jerry W. Markham, \textit{Regulating Excess Executive Compensation—Why Bother?} 2 J. BUS. & TECH. L. 277, 317 (2007) (describing this scandal).} Grasso valiantly kept the NYSE competitive by constantly updating its technology.\footnote{Heather Timmons & Julia Werdigier, \textit{ARKHAM Drove Deal May Tip World onto Exchange Structure}, at 500. But see Gretchen Morgenson, \textit{Big Board Ready to Open the E-Gates}, N.Y. TIMES, Nov. 28, 1999, § 3, at 1 (arguing that Grasso had opened the door to ECN competition by giving in to pressure from the SEC to eliminate NYSE Rule 390).} The NYSE spent over $2 billion during the 1990s on technology and was spending $350 million per year on technology as the new century began.\footnote{See infra note 498 (describing the NYSE’s after-hours trading program). Nasdaq also introduced after-hours trading. Id. at VII-7.} However, Grasso was forced from office after the scandal involving his salary, and his successors gave up the franchise. Although the NYSE had resisted electronic trading competition for many years, it threw in the towel in 2005, merging with Archipelago Holdings, a Chicago based ECN\footnote{See supra note 389.} that was then trading about 500 million shares a day, mostly in Nasdaq stocks.\footnote{See supra note 215.} As a part of this merger, the NYSE gave up its not-for-profit status, demutualized, and became a public company, changing its name to NYSE Group, Inc.\footnote{See infra note 89 (describing the NYSE’s after-hours trading program). Nasdaq also introduced after-hours trading. Id. at VII-7.} In 2006, the NYSE merged with Euronext,\footnote{See Jerry W. Markham, \textit{Regulating Excess Executive Compensation—Why Bother?} 2 J. BUS. & TECH. L. 277, 317 (2007) (describing this scandal).} an amalgamation of European

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\footnote{Jenny Anderson, \textit{Merrill Lynch to Hire Chief of Big Board}, N.Y. TIMES, Feb. 1, 2007, at C3.}
\footnote{See infra note 389 (describing CLOB). At the time, Goldman Sachs was an investor in Archipelago Holdings. Grasso believed that Paulson was then trying to destroy the NYSE trading floor and strongly resisted Paulson’s efforts. Paulson is now Secretary of the U.S. Treasury Department. Charles Gasparino, \textit{King of the Club: Richard Grasso and the Survival of the New York Stock Exchange} 143-44 (2007). See also Jerry W. Markham, \textit{Regulating Excess Executive Compensation—Why Bother?} 2 J. BUS. & TECH. L. 277, 317 (2007) (describing this scandal).}
\footnote{Jenny Anderson & Landon Thomas, \textit{Merrill Lynch to Hire Chief of Big Board}, N.Y. TIMES, Nov. 15, 2007, at A1.}
\footnote{Jenny Anderson & Martin Fackler, \textit{NYSE Makes Alliance With Tokyo Exchange}, N.Y. TIMES, Feb. 1, 2007, at C3.}
\end{thebibliography}
The NYSE agreed to give up American control of the merged entity, NYSE Euronext, sharing control of the board of the merged company with its European counterpart. Euronext was also given the right to withdraw from the combined operation in the event that the SEC tried to regulate its European operations. The NYSE continued its global expansion by entering into an alliance with three foreign exchanges, one of which was the Tokyo Stock Exchange.

NYSE market share plunged after these mergers. In September 2007, the NYSE “executed only 56.1 per cent of trades involving NYSE-listed stocks, down from 69.3 per cent a year earlier, and 78.6 per cent in September 2005.” The NYSE-Euronext merger was followed by the dismantling of a considerable portion of the NYSE floor, and resulted in layoffs of hundreds of NYSE employees. The number of people employed by specialists on the NYSE floor was cut in half and the number of specialist firms was reduced to seven, down from 40 in the 1990s. The specialist lost its icon status. The NYSE was even considering a name change for specialists such as market maker or “liquidity provider.” Those were all blows to the NYSE’s historical role, but its merger program showed signs of success. The NYSE’s own stock was up 355% as revenues

365. Michael J. de la Merced, Big Board, Moving Toward Electronic Trading, to Lay Off 500, N.Y. TIMES, Nov. 9, 2006, at C3. As a condition for that merger, the NYSE agreed to split management and board control of the new entity evenly with the European exchanges, thus giving up domestic control of one of America’s oldest financial institutions. James Kanter, Trans-Atlantic Exchange to Be Listed Today, N.Y. TIMES, Apr. 4, 2007, at C2.


367. See Ian Bickerton & Norma Cohen, Dutch Seek Control of NYSE Body, FIN. TIMES (London), Dec. 19, 2006, at 24 (noting that “[t]o guard against regulatory ‘creep,’ NYSE and Euronext have agreed to create a Foundation under Dutch law . . . that will have the power to take over . . . under certain circumstances”). This provided a mechanism for U.S. firms to list their stocks on Euronext and avoid expensive SEC regulation. See Editorial, Europe Wins Another, WALL ST. J., Nov. 24, 2007, at A10 (discussing the Tommy Hilfiger Corp. plan to go public on the Amsterdam exchange).


371. de la Merced, supra note 365, at C3.


373. “Since these traders emerged in the 1870s, specialists—named because they each specialize in the trading of just a few stocks—have amassed profits and critics alike for their privileged role in putting together buyers and sellers of NYSE stocks.” Aaron Lucchetti, Hi, ‘Designated Market Makers’, WALL ST. J., Nov. 30, 2007, at C14. The NYSE also automated its bond trading operations. Exchange Act Release No. 55,496, 2007 WL 1260859 (Mar. 20, 2007). A further electronic improvement was the creation of Matchpoint, a system that will match orders at predetermined times during regular hours at a single trading price derived from externally derived algorithmic calculations. It was thought that this system would reduce market volatility risks. Exchange Act Release No. 56,798, 2007 WL 4302678 (Nov. 15, 2007).

and earnings soared in the first months after the merger.\footnote{375}

The NYSE-Euronext merger also had some other wide-ranging effects. In 2007, NASD Regulation merged with the NYSE Regulation to become the Financial Industry Regulatory Authority, Inc. (FINRA), thereby creating a single self-regulator and eliminating much overlap and redundancy.\footnote{376} The NYSE and NASD additionally merged their arbitration programs.\footnote{377} These changes foreshadow events to come as discussions about other regulatory mergers began to surface.

IV. REGULATING THE ECNs

A. Securities Industry

The growth of ECNs gave rise to the question of how they were to be regulated. If ECNs were viewed as securities exchanges, they would have to register with the SEC as a national securities exchange under the Securities Exchange Act of 1934.\footnote{378} It would have been difficult for most ECNs to operate as registered exchanges, which have self-regulatory responsibilities and, traditionally, no profit motive.\footnote{379} Imposing such requirements would have nipped the growth of ECNs in the bud. Instead, the SEC chose to regulate most ECNs as broker-dealers under the Securities Exchange Act.\footnote{380} Initially, the SEC staff applied this interpretation through the issuance of no-action letters.\footnote{381} The SEC later adopted Rule 11Ac1-1 under the Securities Exchange Act to regulate ECNs that were matching customer orders with those of an exchange specialist or an over-the-counter market maker.\footnote{382} This rule excluded from its reach ECNs that crossed multiple orders at a single price set by the ECN by an algorithm or any derivative pricing mechanism and did not allow orders to be crossed or executed against orders or participants outside of such terms.\footnote{383}

In 1997, the SEC issued a massive “concept release” in which the agency announced that it was “reevaluating its approach to the regulation of exchanges and other markets in light of technological advances and the corresponding growth of alternative trading

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379. See Bd. of Trade of the City of Chicago v. SEC, 923 F.2d 1270, 1272-73 (7th Cir. 1991) (describing these difficulties).
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systems and cross-border trading opportunities.\textsuperscript{384} The SEC subsequently decided to throw a wider net over ECNs with Regulation ATS (the SEC liked the moniker Alternate Trading Systems (ATS), rather than ECNs) that allowed ECNs to choose to register as national securities exchanges or as broker-dealers.\textsuperscript{385} However, an ECN is required to register as an exchange when it exceeds certain volume levels.\textsuperscript{386} The SEC adopted Rule 11Ac1-1 under the Securities Exchange Act\textsuperscript{387} to define an ATS as any electronic system that widely disseminates to third parties orders entered by an exchange market maker or an over-the-counter market maker and permits such orders to be executed against each other in whole or in part. This rule excluded any system that crossed orders only at prices set by an algorithm or any derivative pricing mechanism.

Regulation ATS requires an ECN that has 20\% or more of the average daily volume of a stock during four of the preceding six months to establish written standards for granting access to trading on its system and must not unreasonably limit access to its trading facilities. The SEC was concerned that the private nature of ECN trades provided institutional traders with an advantage, i.e., more favorable trading opportunities were often available to institutional traders through ECNs. The SEC, therefore, required market makers and specialists to make publicly available superior prices that it privately offered through ECNs. This rule required market makers and specialists who were using ECNs to change their quotes on public quotation systems to reflect orders placed in the ECNs or to be sure that any ECN to which they sent an order was itself able to reflect that order on the public quotation system.\textsuperscript{388}

A proposal surfaced from large broker-dealers that envisioned a centralized


An ATS is any organization, association, person, group of persons, or system: (a) that constitutes, maintains, or provides a market place or facilities for bringing together purchasers and sellers of securities or for otherwise performing with respect to securities the functions commonly performed by a stock exchange within the meaning of Exchange Act Rule 3b-16; and (b) that does not: (i) set rules governing the conduct of subscribers other than the conduct of such subscribers’ trading on such organization, association, person, group of persons, or system; or (ii) discipline subscribers other than by exclusion from trading.

\textsuperscript{386} The SEC subsequently required ECNs to publish reports on the quality of their trade executions and to disclose information concerning their trading relationships. 17 C.F.R. §§ 240.11Ac1-5, 11Ac1-6. These rules were subsequently included in Regulation NMS. 70 Fed. Reg. 37496, 37618 (June 29, 2005).

\textsuperscript{387} 17 C.F.R. § 240.11Ac1 (2007). This rule was subsequently incorporated into Regulation NMS, 70 Fed. Reg. 37496, 37618 (June 29, 2005).

\textsuperscript{388} 17 C.F.R. § 240.11Ac1-1(c) (2007). This rule was subsequently incorporated into Regulation NMS, 70 Fed. Reg. 37496, 37618 (June 29, 2005).
2008] For Whom the Bell Tolls 913

electronic trading system with a central limit order book (CLOB). This raised concerns that those broker-dealers were seeking to internalize their order flow, keeping it from the exchanges. The NYSE claimed that such internalization would fragment markets, impair liquidity, and have other adverse effects. The SEC did not adopt this proposal, but did expand its trade-through rule with the controversial Regulation NMS. The former trade-through rule had applied only to exchanges and had helped to shield the exchanges from ECN competition. There was no such rule for Nasdaq stocks so ECNs were better able to compete for Nasdaq volume. Regulation NMS expanded the trade-through rule to Nasdaq, but that change came too late to stop the loss of market share from Nasdaq.

389. See Michael Schroeder & Randall Smith, Sweeping Change in Market Structure Sought: Major Firms Propose Central Order System and Single Regulator, WALL ST. J., Feb. 29, 2000, at C1 (noting the lobbying efforts by large broker-dealers to adopt a central display). A NYSE report explained that “[a] CLOB, sometimes described as a Super-ECN or a Super National Market System (Super-NMS), would aggregate all limit orders in NYSE-listed stocks from originators industry-wide and subject them to automatic execution against matching orders based strictly upon price and time priority.” NYSE SPECIAL COMM. ON MKT. STRUCTURE, supra note 31, at 10.

390. See Matthew Andersen, Manager’s Journal: Don’t CLOBber ECNs, WALL ST. J., Mar. 27, 2000, at A48 (noting the concern that a CLOB would “deny an ECN’s ability to compete with traditional players”). See generally Borrelli, supra note 380, at 894-95 (discussing the CLOB controversy); David M. Schizer, Benign Restraint: The SEC’s Regulation of Execution Systems, 101 YALE L.J. 1551, 1566 (1992) (describing market problems raised by a CLOB). An SEC chairman responded with a proposal that would have created a CLOB across all markets, but it too proved too controversial to adopt. Karmel, supra note 2, at 390-91. An NYSE report described exchanges’ concern with internalized order flows as follows:

The broker-dealers generate revenue by buying stocks from their customers at or near the bid quote and selling stocks to their customers at or near the ask quote, keeping all or part of the spread as profit. Some internalize orders for NYSE-listed stocks are executed at the so-called “national best bid or offer” (NBBO), and are given no opportunity for the price improvement that is frequently available on the NYSE floor. In other cases, internalizing broker-dealers will offer a degree of price improvement determined by the broker-dealer’s internalization algorithms or its assessment of primary market conditions (for example, if the NYSE reports a series of trades at the bid quote, the internalizing broker-dealer may execute the next buy order it receives at or near the bid quote rather than at the ask quote). In each case, the broker-dealer offers a degree of price improvement that is to some degree artificially constrained and that may not reflect the full amount of price improvement available through order exposure in a central market. Since internalized orders are not exposed on the NYSE floor, they do not form part of the central market pool of liquidity, and thus do not contribute to optimum price discovery.

NYSE SPECIAL COMM. ON MKT. STRUCTURE, supra note 31, at 10.

391. Id. at 28-29. The SEC staff has also noted market fragmentation concerns:

[M]arkets can fragment to the point where price discovery is impaired and maintenance of fair and orderly markets is difficult. . . . [T]he more fragmented a market becomes, the more difficult it is to adhere to time priority principles. . . . reducing the incentive to place limit orders. . . . [and] increase dealer intervention in the handling of customer orders.


B. Derivatives Industry

The CFTC ceded much of its jurisdiction to the ECNs in 2000. Ironically, that action came after a jurisdictional battle over the SEC’s creation of a broker-dealer “Lite” registration program for broker-dealers that were also acting as derivatives dealers.\textsuperscript{394} The CFTC viewed that action as an encroachment on its turf, and it responded with a proposal to explore the expansion of its jurisdiction over the burgeoning OTC derivatives market, a proposal that was met first by industry and then by congressional opposition.\textsuperscript{395} After a change in leadership at the CFTC, that agency executed a volte-face and adopted rules that implemented an almost complete deregulation of the OTC derivatives market for institutional participants.\textsuperscript{396} That action was subsequently enacted into law in the form of the Commodity Futures Modernization Act of 2000 (CFMA),\textsuperscript{397} which created a principles-based regulatory scheme. Among other instructions, Congress charged the CFTC with reviewing and adopting rules to implement a new regime based on regulatory principles.\textsuperscript{398} Although the majority of the principles did not directly touch on electronic trading,\textsuperscript{399} their implementation would speed up the CFTC’s response to rule changes and the explosive growth associated with electronic trading systems.\textsuperscript{400}

The CFMA created a multi-tiered derivatives market in which “[e]ach tier is subject to a varying level of oversight, based primarily on the commodity traded, the type of trading, and the nature of the participants in the market.”\textsuperscript{401} The most regulated tier is the “designated contract markets” where retail traders are prevalent, but the nature of the regulation was changed to a principles-based regimen that allows the exchanges to have more control over their operations.\textsuperscript{402} Nevertheless, that legislation left the traditional contract markets saddled with cumbersome regulatory requirements while upstart
electronic execution facilities were left virtually unregulated. The CFMA separately regulates what it calls derivatives transaction execution facilities (DTEFs) that may be either a “retail” or a “commercial” DTEF. These operations are regulated more lightly than a contract market, but no trading platforms have yet been created that would fall within this category.

The CFMA additionally created an exemption and exclusions from most regulation for electronic trading facilities used by institutional traders that are called exempt commercial markets (ECMs) under the CFMA. The ECM exclusion is often referred to as the “Enron loophole” because it was inserted into the CFMA at the last minute through the lobbying efforts of the Enron Corp. At that time, Enron was operating a popular electronic trading platform called EnronOnline. After Enron imploded in scandal, this exemption became suspect. Nevertheless, this exemption was exploited by other trading operations to create a viable OTC institutional trading market.

ECMs must restrict trading through their electronic facilities to principal-to-principal transactions between “eligible commercial entities.” These are large institutional traders, including hedge funds, that trade “exempt” commodities, which include energy products, metals, chemicals, and emission allowances. “These exclusions and exemptions reflect the view, consistent with various Congressional and Commission actions during the preceding decade, that off-exchange transactions between sophisticated counterparties do not necessarily require the full weight of the protections that the CEA provides for contract markets and DTEFs.”

The CFTC General Counsel has noted that:

Both DTEF categories have fewer regulatory requirements than a contract market, but are subject to differing limitations on eligible traders and the commodities that may be traded. Although subject to a “lighter” regulatory regime, this alternative exchange must have compliance and surveillance programs, and must undertake significant self-regulatory responsibilities. These include a requirement to establish and enforce rules to deter trading abuses and to monitor trading to ensure orderly trading.

Exempt Commercial Markets are electronic trading facilities that restrict trading to principal-to-principal transactions between “eligible commercial entities.” The term “eligible commercial entities,” like the name “Exempt Commercial Markets,” connotes a purely commercial marketplace among entities that can make or take delivery of the underlying commodity. But that also is not quite right. Under the statutory definitions of the CFMA, pooled investment vehicles such as hedge funds qualify as “eligible commercial entities,” and their participation on certain Exempt Commercial Markets has become both active and significant.

It is sometimes said that Exempt Commercial Markets are unregulated. But this is not quite right. Although largely exempt from Commission oversight authority under the CEA, Congress did...
registration and reporting requirements on ECMS, including a requirement that transactions be reported to the CFTC.\textsuperscript{409} ECMS that are serving as a price discovery mechanism for the market must also publicly disseminate execution reports and volume.\textsuperscript{410}

Another source of competition for domestic exchanges was located abroad. The CFTC approved a broad range of foreign futures contracts for trading in the United States, many of which are traded on electronic exchanges abroad.\textsuperscript{411} The CFTC exempted foreign brokers from registration, provided that they limit their client base to persons located outside the United States and trade through a U.S. Futures Commission Merchant on an omnibus basis.\textsuperscript{412} Foreign futures exchanges, many of which were electronic, were also allowed to place terminals in the United States, adding another layer of competition to the traditional pit traders.\textsuperscript{413} Since 2000, the number of foreign customers trading on U.S. exchanges has more than tripled, while the number of U.S. customers trading on foreign exchanges more than quintupled.\textsuperscript{414} The Chicago exchanges also began a desperate quest for linkages with foreign exchanges, such as Matif and even Eurex, in order to retain their market and “supplement” the open outcry market by allowing access to after-hours trading systems abroad.\textsuperscript{415}

V. REGULATORY CHALLENGES—POST TRADING FLOOR

A. Derivative Markets

The ECNs have revolutionized trading markets, but they also pose some regulatory challenges. As a senior CFTC staff member has noted, trading on ECMS “has grown substantially, due in no small measure to the regulatory environment created by the CFMA.”\textsuperscript{416} The CFTC has also encountered a number of problems from its deregulation under the CFMA that has caused the agency and Congress to review whether more regulation should be imposed on those entities. The bankruptcy of Enron resulted in a broad-ranging scandal that grew to include EnronOnline, Enron’s proprietary ECN.

\textsuperscript{409} Id. There is some concern over whether the CFTC’s principal anti-fraud provision applies to transactions on an ECM that are not “inter-mediated” through a broker. The CFTC is seeking legislation to fill that gap. \textit{Id.} at 4.

\textsuperscript{410} 17 C.F.R. § 36.3 (2007).

\textsuperscript{411} CFTC Foreign Instrument Approval and Exemptions, 2005 CFTC Ltr. LEXIS 27, *1 (Nov. 28, 2005).


\textsuperscript{413} \textit{See, e.g., Commodity Futures Trading Comm’n, Div. of Mkt. Oversight, Letter No. 06-24 (Sept. 29, 2006) (allowing the Parisbourne (SBF) SA to place terminals in the United States which access that exchange’s electronic trading and order matching system without registration as a contract market).}


\textsuperscript{415} \textit{Eric N. Berg, 2 Big Futures Exchanges in a Race, N.Y. TIMES, Apr. 11, 1989, at D2.}

\textsuperscript{416} \textit{Arbit, Hearing, supra note 401, at 2.}
Before its bankruptcy, EnronOnline was the world’s largest online energy trading platform.\(^1\) In *CFTC v. Enron Corp.*,\(^2\) the CFTC complaint charged that Enron had sought to manipulate natural gas prices by rapidly purchasing a massive amount of natural gas through its electronic trading platform. The CFTC also charged that Enron’s ECN was either an illegal futures exchange that should have been registered with the CFTC or that the CFTC should have been notified that the platform was exempt from registration. The district court entered a consent order of permanent injunction in that case and imposed a $35 million civil penalty.

That incident was only the tip of a very large iceberg. Enron had also massively “gamed” the California electricity market in 2000-2001, a period where the state was experiencing an electricity shortage caused by an incredibly inept attempt by the state to deregulate the wholesale electricity market.\(^3\) The California Power Exchange (PX) was to be the center of that reform. It established an auction market for wholesale hourly, “day ahead,“ and “day of” electricity deliveries. California also created the Independent System Operator (ISO) to deal with imbalances after the PX closed for the day. Enron was able to game this system to the tune of over $1.3 billion through transactions it dubbed such things as “FatBoy,” “Death Star,” and “Get Shorty.”\(^4\) Enron traders involved in those transactions pleaded guilty to criminal charges.\(^5\) California Governor Gray Davis was also recalled by voters and replaced by the actor, Arnold Schwarzenegger as a result of the energy crisis in that state.\(^6\)

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\(^{1}\) In re Enron Corp., 274 B.R. 327, 334 (Bankr. S.D.N.Y. 2002).


\(^{3}\) See Jerry W. Markham & Lawrence Hunt, Jr., *The California Energy Crisis—Enron’s Gaming of Governor Gray’s Imperfect Market*, FUTURES & DERIVATIVES LAW REPORT, Apr. 2004, at 1 (describing these problems).

\(^{4}\) One court described these transactions as follows:

Enron Corporation allegedly gamed the California markets with impunity, using manipulative corporate strategies, such as those nicknamed “FatBoy,” “Get Shorty,” and “Death Star.” Under the “Death Star” strategy, Enron allegedly sought to be paid for moving energy to relieve congestion without actually moving any energy or relieving any congestion. All of the demand was created artificially and fraudulently, creating the appearance of congestion, and then satisfied artificially, without the company providing any energy. “FatBoy” refers to a strategy through which Enron allegedly withheld previously agreed-to deliveries of power to the forward market so that it could sell the energy at a higher price on the spot market. The company would over-schedule its load; supply only enough power to cover the inflated schedule, and thus, leave extra supply in the market, for which Cal-ISO would pay the company. Via the “Get Shorty” strategy, traders were able to fabricate and sell operating reserves to Cal-ISO, receive payment, then cancel the schedules and cover their commitments by purchasing through a cheaper market closer to the time of delivery.


The Justice Department was embarrassed in one prosecution involving the California electricity market. The Department was forced to offer a deferred prosecution agreement to Reliant Energy and four of its traders after the Department’s case against those defendants fell apart.\(^\text{423}\) The defendants were charged with manipulating the California electricity market during 2001 by shutting down four of its five California generating plants. The indictment of those defendants had been publicly announced with great fanfare by Attorney General John Ashcroft.\(^\text{424}\) The prosecutors thought they had a certain victory because tape recordings of the traders’ conversations had indicated that they had shut down the plants in order to limit supply so that the traders could obtain larger profits from their trading in electricity.\(^\text{425}\) A federal district court had allowed the case to go forward even though there had only been one other criminal prosecution under the false reports prohibition in the Commodity Exchange Act, which was the basis for the charges against the defendants.\(^\text{426}\) However, that court later issued jury instructions and made an evidentiary ruling that made it very difficult for the government to prove its case. That evidentiary ruling was upheld by the Ninth Circuit on appeal.\(^\text{427}\) This apparently convinced prosecutors that they should settle, which they did by imposing a relatively paltry $22 million fine on Reliant Energy. What was most unusual was the grant of a deferred prosecution agreement after an indictment, particularly one that included the individual defendants.\(^\text{428}\)

Enron and other traders’ activities in the natural gas market were also the subject of scrutiny. During the California electricity crisis, the Federal Energy Regulatory Commission (FERC) concluded that natural gas prices rose to “extraordinary” levels and facilitated the increased electricity prices. Those increases in natural gas prices were found to have been the result of “dysfunctions in the natural gas market [that] stemmed from efforts to manipulate price indices compiled by private trade publications, including reporting of false data and wash trading.”\(^\text{429}\) This was a reference to so-called “round trip” trades or “bragawatts,” in the vernacular of the trade. These transactions involved offsetting purchases and sales by the same traders in order to boost their trading volumes so that it would appear to other market participants that they were large traders with liquidity. These trades were then reported to industry publications such as Inside FERC’s Gas Market Report, Gas Daily, and Natural Gas Intelligence.\(^\text{430}\) The FERC staff found that such “false reporting became epidemic.”\(^\text{431}\) Traders were also charged with using round-trip trades to set artificial prices that could be used to justify charging more


\(^{424}\) Id.

\(^{425}\) Id.


\(^{428}\) Scheck, supra note 423.

\(^{429}\) In re Western States Wholesale Natural Gas Antitrust Litig., 408 F. Supp. 2d 1055, 1057 (D. Nev. 2005), rev’d and remanded on other grounds, 248 Fed. Appx. 821 (9th Cir. 2007).


\(^{431}\) FED. ENERGY REGULATORY COMM’N, FERC DOCKET NO. PA02-2-000, FINAL REPORT ON PRICE MANIPULATION OF ELECTRIC AND NATURAL GAS PRICES, at ES-6 (2003).
favorable prices on actual contracts.\footnote{432}

This intrusion into the energy market aroused the ire of regulators and Congress.\footnote{433} The CFTC brought dozens of cases charging that round-trip trades and false reports of trading to industry publications constituted attempted manipulation and violated the prohibition in the Commodity Exchange Act on false price reports. The CFTC collected several hundred million dollars in civil penalties in settling those cases.\footnote{434} Criminal prosecutors made similar charges.\footnote{435} FERC brought a number of actions under its power to regulate natural gas and electricity.\footnote{436} The SEC jumped in with actions charging that round-trip trades had distorted the balance sheets of the public companies engaging in such activities.\footnote{437} Congress also responded with the Energy Policy Act of 2005,\footnote{438} which expanded FERC’s powers to attack energy price manipulations.\footnote{439} In implementing the provisions of the Energy Policy Act of 2005, FERC rules prohibit natural gas sales or resales that are without a legitimate business purpose and that are intended to or could foreseeably manipulate market prices, market conditions, or market rules for natural

\footnote{432}{Id.; see, e.g., Enserco Energy, Inc., Comm. Fut. L. Rep. (CCH) ¶ 29,554 (C.F.T.C. 2003). One company, Reliant, was accused of “churning,” which was the rapid high volume purchase and sale of energy products at ever-increasing price levels. Reliant and others were also charged with “withholding” supplies from the market in order to raise prices. Jacqueline Lang Weaver, \textit{Can Energy Markets be Trusted? The Effect of the Rise and Fall of Enron on Energy Markets}, 4 \textit{Hous. Bus. & Tax L.J.} 1, 72-73 (2004).}


\footnote{434}{A spike in energy prices over the last few years has placed increased political pressure on the CFTC to attack traders profiting from those increases. The CFTC responded with gusto. For a description of CFTC cases involving energy market enforcement actions and the amounts of civil monetary penalties collected see Commodity Futures Trading Commission Energy Markets Enforcement Results, \textit{Comm. Fut. L. Rep. (CCH)} ¶ 30,598 (C.F.T.C. 2007).}


gas. A pending issue is whether FERC jurisdiction extends to transactions on the commodity futures market where the CFTC has had traditional exclusive jurisdiction over manipulation claims. In October 2005, the CFTC and FERC entered into a memorandum of understanding to address their respective roles where futures contracts are involved in energy price manipulations. According to this memorandum, each agency is to refer to the other potential violations that are within the jurisdiction of the other agency. FERC was also given access to information from commodity exchanges if needed in connection with its investigation. What this really meant was double jeopardy from agency regulatory actions. Thus, in simultaneous actions filed by both the CFTC and FERC, Energy Transfer Partners, L.P. was charged with violating the anti-manipulation statutory provisions administered by both agencies as a result of its trading in physical natural gas.

A subsequent case involving a large hedge fund resulted in jurisdictional conflict concerns between the CFTC and FERC. A hedge fund, Amaranth Advisors, lost over $6 billion in a single week during 2006 from its trades in energy products. Interest in that loss was heightened by the fact that Amaranth had created its energy trading department by hiring several former traders from Enron, after that company collapsed in a massive scandal. The energy trading group at Amaranth had some initial spectacular successes making large profits from deep out-of-the-money options on natural gas that became profitable after Hurricanes Katrina and Rita. The company also gained large profits from natural gas energy swaps in 2005. However, Amaranth switched its outlook in 2006 from bullish to strongly bearish. That change in views was its undoing. In implementing its short strategy, Amaranth acquired almost 70% of the open interest in the January 2007 NYMEX natural gas futures contract. At one point it held more than 100,000 natural gas futures contracts. A move of just one cent would cause a loss of $10 million on such a position.

At first, Amaranth’s short strategy was successful, resulting in a $1 billion profit in April 2006. However, the market subsequently turned against the company, resulting in losses. Additionally, Amaranth’s large positions were attracting the attention of

440. 18 C.F.R. § 284.403(a) (2005) (since amended by 18 C.F.R. pt. 1c (2006) and no longer contains legitimate business purpose language). Under the FERC rule all participants in the energy market are subject to this prohibition. For a description of the FERC regulatory systems, see Horwich, supra note 436, at 363.
441. For a description of this memorandum of understanding and the overlap in jurisdiction of the two agencies, see Catherine Krupka & Athena Velic, There’s a New Sheriff in Town: Energy Derivatives and FERC, Futures Industry Mag., July-Aug. 2007, at 18, 19-20.
444. STAFF OF S. PERMANENT SUBCOMM. ON INVESTIGATIONS OF THE COMM. ON HOMELAND SEC. AND GOVERNMENTAL AFFAIRS, 110TH CONG., REPORT ON EXCESSIVE SPECULATION IN THE NATURAL GAS MARKET 58 (2007) [hereinafter EXCESSIVE SPECULATION].
445. Id.
446. Id.
447. Id. at 62.
448. Id. at 63.
449. EXCESSIVE SPECULATION, supra note 444, at 64.
regulators. NYMEX forced Amaranth to reduce its positions on that exchange, but Amaranth, using a regulatory arbitrage, simply shifted its position to the unregulated market on ICE. 450 ICE, a leading energy market, was the creation of Jeffrey Sprecher who founded ICE in 2000 as an electronic marketplace for energy derivatives. It experienced rapid success, becoming a substitute for EnronOnline after Enron collapsed. 451 ICE was backed by several large energy companies and financial institutions, including Royal/Dutch Shell and Goldman Sachs. 452

ICE, a publicly traded company on Nasdaq, grew rapidly. It acquired the International Petroleum Exchange in London, which was a leading open outcry market for petroleum products that was then converted into an electronic market. 453 ICE also acquired the Board of Trade of the City of New York (NYBOT) in 2007 for $1.8 billion. 454 NYBOT had previously acquired the New York Futures Exchange, a failed venture of the NYSE to enter the futures markets, the New York Cotton Exchange, Finex, and the Coffee, Sugar & Cocoa Exchange. 455 ICE announced that it was shuttering most of the floor trading on those exchanges in 2008, 456 causing a sharp rise in ICE stock and placing additional pressure on competitors to shut down their floors. 457 ICE also acquired the Winnipeg Commodity Exchange. 458

ICE operated its OTC electronic trading platform for institutional traders in the United States as an ECM, which is, at least for the moment, largely unregulated. That was the platform used by Amaranth to shift its positions from NYMEX. An ICE affiliate, ICE Futures U.S., Inc., is a designated contract market under the Commodity Exchange Act and, therefore, can also conduct a retail business. 459 ICE uses that market for its soft commodity, foreign exchange, and equity index trading. 460 Another affiliate, ICE Futures Europe is a Recognized Investment Exchange regulated by the Financial Services Authority (FSA) in London. ICE Markets in London conducts sales and marketing activities and is also regulated by the FSA. 461 ICE Futures Europe “trades nearly half of the world’s global crude futures in its markets.” 462 Volume on other foreign commodity exchanges was also outpacing those in the United States. 463

450. Id. at 88.
452. Id.
462. Id.
463. See Galen Burghardt, 9,899,780,283 Contracts Traded, FUTURE INDUS. MAG., Mar.-Apr. 2006, at 16 (identifying volume growth in the top five exchanges between 1999 and 2005 as having experienced the following growth rates: 2570% (Korea Exchange), 443% (CME), 230% (Eurex), 165% (CBOT), and 156%
Amaranth’s regulatory arbitrage did not work to its benefit. The market continued to turn against Amaranth and it was unable to trade its way out of its large position. It closed its positions in September 2006 and recognized its massive loss. The CFTC and FERC then brought separate cases against Amaranth and two of its traders charging manipulation. As the district court in the CFTC action noted, “Amaranth is being pursued by two federal regulatory agencies in two separate proceedings in two different jurisdictions, based on the same alleged conduct.” The defendant claimed that the CFTC had exclusive jurisdiction over manipulative activities in the futures markets, but FERC claimed that its new jurisdictional mandate under the Energy Policy Act of 2005 was not so limited. The district court refused to enjoin the FERC action even though it had some sympathy for the defendant’s plight.

The run up in energy prices between 2002 and 2006 was phenomenal, raising concerns on the part of conspiracy theorists that some evil force was causing those increases. The CFTC was on the frontline of the agencies attacking market participants and imposing record-breaking civil penalties in the process. Despite that effort, Congress concluded that the CFTC could not do the job alone and gave FERC power to sanction manipulators and regulate traders in the energy markets through the Energy Policy Act of 2005. That grant of additional power to FERC still did not alleviate


464. EXCESSIVE SPECULATION, supra note 444, at 99.

465. Id. at 114.


469. Tina Seeley & Matthew Leising, $1 Million Fines Sought for Futures Violations; Agency Requests Greater Penalty in Manipulation Cases, HOUS. CHRON., Oct. 25, 2007, at Bus. 3.


congressional concerns that more regulation was needed. A GAO report in 2007 on
derivative trading in the energy markets questioned the CFTC’s oversight ability. 473
Congress subsequently granted the Federal Trade Commission authority to prosecute
false reporting and market manipulation in the wholesale petroleum market. That was
accomplished through provisions in the Energy Act of 2007 that was signed into law in
December of that year. 474 This means that there are now three agencies directly charged
with regulating trading in the energy markets, i.e., the CFTC, FERC, and the FTC, as
well as the Justice Department for criminal prosecutions.

The CFTC tried to defend itself from further loss of status with an extensive study of
trading in the energy market, 475 and the CFTC asked Congress for more regulatory
authority over ECMs. 476 It also expanded its reporting requirements for ECMs. 477 The
ECMs were of particular interest because of their growing role in the high profile energy
markets. 478 The lack of regulation of those markets made them suspicious to many.
However, the imposition of additional regulation is expected to drive these markets
offshore. 479 For example, it would take little effort for ICE to move its present U.S. ECM
institutional trading operations to London as well and subject itself to FSA regulation,
which has a much less burdensome regulatory regime than that of the CFTC for regulated
market participants. 480

473. Gov’t Accountability Office, Commodity Futures Trading Commission: Trends in Energy
prohibition, id., are modeled after those of section 10(b) of the Securities Exchange Act of 1934, 15 U.S.C. §
78j(b) (2000).
476. Seeley & Leising, supra note 469, at 3. For a description of the additional regulatory authority sought
by the CFTC (which includes self-regulatory obligations), see Press Release, U.S. Commodity Futures Trading
Comm’n, CFTC Recommends Legislative Changes to Regulation of Exempt Commercial Markets (Oct. 24,
2007) (describing the additional regulatory authority sought by the CFTC (which includes self-regulatory
1672 (Oct. 29, 2007).
478. A GAO report noted that:

Since 2001, 17 facilities have notified CFTC that they had begun operating as exempt commercial
markets . . . . According to CFTC officials, 11 of these markets currently offer, or had offered,
transactions in energy products, with 8 now operational. Some of these markets have become
important players in the trading of energy products. ICE, in addition to the exempt swap contracts it
trades in its capacity as an exempt commercial market, is the trading platform for physical
commodities, including spot and forward contracts, which routinely involve delivery. According to
CFTC officials, some in the industry assert that ICE is the trading platform for an estimated 70
percent of the spot trading for natural gas. Another exempt commercial market, ChemConnect,
advertises that data and news providers, such as Bloomberg and Dow Jones Energy Services, rely
on it to provide accurate, timely information on energy products. Furthermore, the Web site for the
HoustonStreet Exchange indicates that it serves as an electronic trading facility for crude oil and
refined products also traded on NYMEX.

Gov’t Accountability Office, supra note 473, at 39.
479. Jeremy Grant, Clampdown on Over-The-Counter Trading, Fin. Times (London), Oct. 25, 2007, at 1-
15.
480. For a comparison of U.S. and English financial services regulation, see Jerry W. Markham, Super-
ECNs posed other regulatory problems. In *In re Lui*, the CFTC, by consent, imposed sanctions against a respondent for knowingly prearranging trades on the Globex electronic trading platform at the CME. The respondent was trading several of his accounts against each other, resulting in profits for the customers on one side of the trades and losses to customers on the other.

**B. Securities Markets**

The securities markets were also encountering some regulatory challenges from ECNs. In one instance, the SEC found that a large number of wash and matched trades had been executed on MarketXT, an ECN. Those trades had been arranged in order to increase income from payments from vendors of trade data. That ECN also had net capital deficiencies and its registration as a broker-dealer was revoked. In another case, respondents were found to have used an ECN to engage in wash trades for tax purposes. Another case involved an ECN’s failure to provide equal access to market information by subscribers.

These regulatory problems paled in relation to the concerns raised by structural changes that were occurring in the securities markets. The value of companies going private tripled between 2004 and 2006. Over 2100 private equity buyouts were consummated in the first ten months of 2006 at $583 billion, up $138 billion from the prior 12 months. The total buyouts in 2006 reached $709.8 billion by year-end. NYSE delistings reached $38.8 billion in 2006 and Nasdaq withdrawals totaled $11 billion. The value of initial public offerings in the United States in 2006 was less than one half that of the public companies that went private. More capital was going into private equity funds than net flows into mutual funds. Venture capital funds

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483. Id. The AMEX had experienced a problem with “trade shredding” that involved splitting orders in order to increase revenues from the market data vendors. Self-Regulating Organizations, American Stock Exchange, LLC; Notice of Filing of Proposed Rule Change Relating to the Prohibition of Trade Shredding by Members, 71 Fed. Reg. 18,789 (proposed Apr. 12, 2006). SEC Regulation NMS subsequently changed the system for fees charged by SRO participants for market data in order to prevent such abuses. 70 Fed. Reg. 37,496, 37,562-63 (June 29, 2005).

484. SEC, NASDAQ, supra note 482.


490. Id.

traditionally “used the U.S. IPO market as their exit strategy . . . . Today, however, nearly
90 percent of those venture-capital-backed startups are sold to strategic buyers in private
transactions.” 492

Private equity pools include the Blackstone Group with $71 billion under
management; the Carlyle Group with $47 billion; Bain Capital with $40 billion; Kohlberg
Kravis Roberts with $30 billion; Texas Pacific Group with $30 billion; and Cerberus
Capital Management with $24 billion. 493 They have been joined in recent months by the
so-called sovereign-wealth funds (SWFs) operated by governments of oil exporting
countries and countries such as China that have large export surpluses. The oil exporting
countries were estimated to have $4 trillion to invest in 2007, an amount that was
growing rapidly as oil prices then approached $100 per barrel. 494 The SWFs were making
some high profile investments in financial firms wounded by the subprime crisis in
2007. 495 They included a $5 billion investment by the China Investment Corporation in
Morgan Stanley 496 and a $7.5 billion investment in Citigroup by Abu Dhabi, which
joined a Saudi Arabian prince as the largest shareholders in that bank. 497 The Abu Dhabi
fund was estimated to hold some $875 billion in assets, 498 and the Dubai stock exchange
was entering into a joint venture with Nasdaq. 499 The Kuwait Investment Authority made
a $5 billion investment in Merrill Lynch in December 2007. 500 That cash inflow was
needed to staunch heavy losses from subprime investments. 501

These private equity pools were supplemented by equally private hedge funds and
institutional investors such as pension funds, all of which were seeking alternative
investments outside the public exchanges. 502 This burgeoning alternative market gave
rise to the development of private equity ECNs by several broker-dealers. 503 However,
they abandoned that effort in favor of using the Nasdaq Portal system. 504 Portal operates
under SEC Rule 144A, which allows institutions to trade in unregistered securities. 505

Interestingly, a couple of the private equity funds decided to make a public offering of their own stock, but that
effort was not a success. See Hugo Dixon, Financial Insight: Private Equity’s New World; Tougher Access to
Kit Roane, The New Face of Capitalism, U.S. NEWS & WORLD REP., Dec. 4, 2006, at 49 (describing the
private equity buying binge).

495. SWF investments in financial services firms reached $37 billion by November 2007. Peter Thai Larsen
& David Wrighton, Sovereign Funds Upbeat on Growth of Financials, FIN. TIMES (London), Nov. 28, 2007, at
1.
C1.
502. Mary Williams Walsh, Calpers Tells What It Paid High-Risk Investment Funds, N.Y. TIMES, Dec. 8,
505. 17 C.F.R. § 230.144A(c) (2000); see Stephen J. Choi, Company Registration: Toward a Status-Based
Another ongoing concern is the migration of financial services abroad.\footnote{506} Only five percent of the top 20 global initial public offerings in 2006 were listed in the United States, down from 60% five years earlier.\footnote{507} The United States raised only 28% of global equity in 2006, down from 41% in 1995.\footnote{508} As one commentator noted:

Between 1996 and 2001, the New York Stock Exchange averaged 50 new non-U.S. listings annually; in 2005, it was 19. In the same year, the London Stock Exchange, including its small company affiliate, the Alternative Investment Market, gained 139 new listings while Nasdaq attracted 19. Since the end of 2004, 30 foreign companies have left the NYSE and Nasdaq. Financial capital—the kind that finances mergers, acquisitions and new business formation—is also increasingly finding a more comfortable home abroad. Large offerings by Chinese, Korean and Russian companies—involving billions of dollars—have occurred in Hong Kong and London; meanwhile, large new foreign offerings this year by Russian aluminum producers and Kazakhstan oil and copper companies are planning to list in London.\footnote{509}

The number of foreign delistings increased to 56 in 2007, almost double that of the year before and over four times the amount in 1997.\footnote{510} Foreign issuers seeking capital were increasingly turning to private offerings under SEC Rule 144A.\footnote{511} More alarming, almost ten percent of all public offerings by U.S. firms in 2007 were done through a foreign listing; only three such listings occurred between 1996 and 2001.\footnote{512}

A report by a blue ribbon Committee on Capital Markets concluded that excessive regulation in the United States was making foreign markets more competitive.\footnote{513} That shift is likely to increase since financial service firms such as ICE can elect to operate in London where regulation is much less intense and expensive. That location can then be used to offer services throughout the European Union under the “passport” provisions of the EU Market in Financial Instruments Directive that became effective on November 1, 2007.\footnote{514}

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\begin{itemize}
\item \footnote{506} INTERIM REPORT, supra note 491.
\item \footnote{508} Id.
\item \footnote{509} Peter J. Wallison, Capital Punishment, WALL ST. J., Nov. 4, 2006, at A7.
\item \footnote{510} Editorial, The Other Market Crisis, WALL ST. J., Dec. 10, 2007, at A18 [hereinafter Other Market Crisis].
\item \footnote{511} Id.; 17 C.F.R. § 230.144A (2000).
\item \footnote{512} Other Market Crisis, supra note 510, at A18.
\item \footnote{513} Greg Ip, Kara Scannell & Deborah Solomon, Panel Urges Relaxing Rules for Oversight, WALL ST. J., Nov. 30, 2006, at C1. Much of this expense has been attributed to the Sarbanes-Oxley Act of 2002, Pub. L. 107-204, 116 Stat. 745 (2002). INTERIM REPORT, supra note 491, at xi. However, there are other impediments to capital-raising efforts in the United States. Settlements in class action lawsuits brought in the United States claimed $9.6 billion (including a whopping $6.1 billion from the WorldCom litigation) in corporate funds in 2005 up from $150 million in 1995. Id. at 5. See Capital Flight, supra note 492, at A8 (discussing these concerns). In courts abroad, such settlements totaled $0.00 because other countries do not recognize class actions.
\item \footnote{514} Robert Finney & Emma Radmore, MiFid: How Have Firms Coped?, FUTURES INDUS. MAG., Nov.-Dec. 2007, at 34.
\end{itemize}
C. Regulatory Challenges

Regulators are charged with the difficult task of balancing different policy issues presented by electronic exchanges, and encouraging the development of electronic systems throughout the industry while maintaining the present supremacy of the U.S. marketplace. One of the primary functions of regulators, however, is to guard against customer abuse. Although analysis of traditional fraud concepts remains valid because the use of computers little altered fundamental aspects of most fraud schemes, regulatory investigations must change as the trading host changes. Regulators recognize that their surveillance of order execution on the exchanges must incorporate a review of electronic trade-matching algorithms. The adoption of electronic trading provides them with a mountain of detailed trade data. As the importance of algorithms has grown, regulators understandably have taken the position that any changes to an exchange’s algorithm carry the force of a rule change and the accompanying regulatory oversight. Unfortunately, circumstances suggest that some of the federal regulators have been unable to keep pace.

515. Regulation NMS, 70 Fed. Reg. 37,496, 37,504 (June 29, 2005) (recognizing major changes in equities markets, which requires the SEC to handle many unresolved issues).
516. See Oesterle, Assault, supra note 179, at 17 (identifying the SEC’s regulatory challenge).
517. See infra note 594 (identifying the protection of the investing public as a role for both the SEC and CFTC).
519. See GOV’T ACCOUNTABILITY OFFICE, GAO/T-GGD-99-34, SECURITIES FRAUD: THE INTERNET POSES CHALLENGES TO REGULATORS AND INVESTORS 2 (Mar. 22, 1999) (testimony of Richard J. Hillman before the Permanent Subcomm. On Investigations, Comm. On Governmental Affairs) (noting that “SEC and state regulatory agency programs to combat Internet securities fraud are new and face significant challenges that could limit their effectiveness in the long-term [absent changes]”); see also CFTC, Transcript of Meeting of the Technology Advisory Committee at 30 (Oct. 13, 2004) (comments of Kenneth Raisler [hereinafter CFTC, Advisory Committee] (opining that “issues about recording [telephone lines] certainly would be relevant to that market [the existing trading environment] as well” in response to the possibility that the CFTC would impose telephone recording requirements on terminal operators to fill in the last gap because the electronic order routing trail lacks this information), available at http://www.cftc.gov/stellent/groups/public/@aboutcftc/documents/file/tac_101304_transcript.pdf.
520. See generally CFTC, Advisory Committee, supra note 519, at 15-58 (discussing “the implications of the recent dramatic growth in electronic trading in the U.S. for the [CFTC’s] own trade practice surveillance program and the manner in which that surveillance is conducted”).
521. CFTC Regulation 1.35(g) requires exchanges to report trades in increments of no more than one minute. It also requires the “actual time” a trade is executed. See 17 C.F.R. § 1.35(g) (2007) (stating that “actual times of execution shall be stated in increments of no more than one minute in length”). Analyzing this data, regulators are “going to need an awful big system to handle all the data that’s going to be thrown at it when [they] automate [their] review of trading data. [They] need all the bids and offers, of course, as well as the trade data.” CFTC, Advisory Committee, supra note 519, at 48.
522. See generally CFTC Notice of Revision of Commission Policy Regarding the Listing of New Futures and Option Contracts by Foreign Boards of Trade That Have Received Staff No-Action Relief to Provide Direct Access to Their Automated Trading Systems From Locations in the United States, 71 Fed. Reg. 19,877, 19,878 (Apr. 18, 2006) (identifying the terms and conditions for approval of a foreign board of trade’s access to U.S. customers via electronic trading devices as “requiring that the foreign board of trade promptly provide the Division with written notice of any material change in the structure, operation or regulation of the foreign board of trade or its trading system”).
523. In comparison to the explosive growth in the commodity markets, the CFTC’s funding and allocation
That being said, some regulation is inevitable. Surveillance of these systems should be limited, but must encompass the spectrum of their functionality. Those measures include the system, hardiness, communication with the ECN, and other qualities. Inevitably, the focus of regulators’ market surveillance activities has changed as part of the “cat and mouse” games among the regulators and some of the regulated. The adoption of electronic trade-matching systems, also inevitably, has rendered some of these games obsolete. Many regulators report that customer abuses, in particular, have declined. However, new forms of trading lead to new types of abuses that require the attention of regulators. One of the more significant changes has been the regulators’ allocation of resources away from floor activities towards order entry points, like the terminal operator’s activities, short-term manipulations and other activities in illiquid markets, side-by-side trading products, and inter-market transactions.

Additional regulatory changes are necessary in light of the extent and ease with which intermediaries’ and exchanges’ interests cross jurisdictional borders. Cooperation among the regulatory bodies, inside and outside the United States, is vital in monitoring the industry. In the international arena, cooperation among regulators has evolved from bilateral agreements to multilateral agreements to participation in international organizations. Information sharing in this arena often relates to the most fundamental market information, identifying market participants and the positions they hold. Requests often occur when a participant engages in market activities in different countries, which is much easier with the advent of electronic trading.

Another critical challenge is the government’s maintenance of surveillance over the foreign exchanges in some form. The CFTC acknowledged this in its grant of a no-action to upgrading systems seems paltry. See Jeffery Testimony, supra note 400, at 8 (stating that “[b]udgetary constraints have required the Commission over several years to put new systems development initiatives and hardware and software purchases on hold, as indicated in Figure 6 [depicting a decline in “Technology Investment as a Percentage of the CFTC Annual Appropriation” from 10% in fiscal year 2001 to 7% in fiscal year 2006”]).

524. See CFTC, Advisory Committee, supra note 519, at 26 (testimony of Steve Braverman) (summarizing the results of CFTC interviews with self-regulatory organizations in which the CFTC found that “[a]ll the U.S. SROs that we interviewed stated that electronic trading appears to have reduced customer abuses, that they were getting fewer hits in their electronic surveillance system”).

525. See Randall Smith, NYSE Moves to Prevent Abuses in Odd-Lot Trades: Specialist Firms Complained Some Traders Took Advantage of Program for Small Investors, WALL ST. J., Nov. 14, 2007, at C5 (suggesting that the abuse of the odd-lot rules has “gained more prominence with the advent of faster, electronic trading”).

526. See CFTC, Advisory Committee, supra note 519, at 19-22 (testimony of Steve Braverman) (explaining details of order entry).


529. See CFTC, Advisory Committee, supra note 519, at 22 (testimony of Steve Braverman) (describing the ease with which traders can access “multiple exchanges on a single screen simultaneously around the world”).
letter to ICE Futures. The grant of access to U.S. customers without registering under the CEA is dependent upon the CFTC’s ability to obtain information about a contract’s salient details and positions held by participants. Both the CFTC and the SEC seek trade data from the ECNs. Those demands can be readily met in an electronic format, but one of the issues that ECNs had to address after developing their trade-matching systems was the desire for all participants to receive “real time” trade information.

Intermediaries developed order routing and strategy algorithms that required information on a sub-second basis. This led to an ever-increasing demand for information from the ECNs’ servers about the current market, and could be the cause of some interruptions in trading operations early in their development. To combat this unrelenting need for messages transmitted by market participants, exchange operated ECNs developed rules and policies to regulate the contact intermediaries may have with their servers. The ECNs limit the entities that may “write” to the servers and deliver messages to those who own trading rights, memberships, or satisfy their application program interface requirements. Exchange-operated ECNs then fine those permitted entities that send too many messages. Because the exchanges want to encourage trading, these fines are relatively light, do not appear on regulatory records, and have a high minimum threshold. Ultimately, intermediaries that are fined even a trivial amount will have violated the rule on a sustained and egregious level.

530. See LIFFE No-Action Letter, 1999 CFTC Ltr. LEXIS 38, at *14 (July 23, 1999) (specifically conditioning the CFTC’s no-action grant upon “satisfactory information-sharing arrangements between the Commission and the FSA will remain in effect”), available at http://www.cftc.gov/mlletters199letters/mliffe_no-action.htm; Lukken, supra note 527, at 3-4 (acknowledging that the CFTC and the UK’s FSA began sharing information in 2006 that allows the agencies to “effectively monitor the entirety of the WTI market”).

531. Id.; see also Boards of Trade Located Outside of the United States and No-Action Relief From the Requirement to Become a Designated Contract Market or Derivatives Transaction Execution Facility, 71 Fed. Reg. 64,443, 64,446-47 (Nov. 2, 2006) (reaffirming the CFTC’s current approach, the no-action process, to “facilitat[ing] direct access to the electronic trading system of a foreign board of trade by its U.S. members or authorized participants” because the staff “also reviews the adequacy of information sharing with the Commission by the market and its regulator”).

532. See Aaron Lucchetti, Fast Lane: Firms Seek Edge Through Speed As Computer Trading Expands-Tradebot Moves Its Machines Into Exchange Buildings; Competitors Follow Suit-100 Million Shares in a Day, WALL ST. J., Dec. 15, 2006, at A1 (explaining the difference for a Kansas City based broker that moved its servers closer to the New York exchanges and the resulting time delay that “now takes . . . about 1/1000 of a second to trade a stock, compared with 20/1000 before the move”).

533. The order routing and trading strategy systems that traders and intermediaries create send “messages” with information about their orders to an exchange’s server housing a trade-matching algorithm for each product in which they intend to trade. The servers receive information and respond with information about the market and whether the order has been received, accepted, executed in full or in part, and also with price and time information.


536. See, e.g., CME, MESSAGING POLICY, supra note 534, at 3-4 (identifying classes of members not subject to aspects of the messaging policy and other exceptions to the policy’s application, like only applying it to messages during normal trading hours).

537. See id.
There is also a national security element at play with the growth of ECNs. A significant concern that has developed is the question of when an exchange may close its doors due to external factors. As a result of the tragic events on September 11, 2001, all exchanges and intermediaries store critical documents, systems, and procedures at a back-up location.\(^{538}\) In the event of a disaster, the back-up location shall become the fully functioning headquarters. The advent of electronic trading, however, brings new meaning to what is sufficient for an exchange to close. Before electronic trading became widespread, if members were unable to reach the exchange physically, the exchange staff and pit committee members would determine whether opening was unattainable. Now, with the majority of exchange trading happening through electronic matching systems, local failures will certainly not prevent a majority of participants from accessing the system. Absent a local failure in Chicago or New York, this will virtually guarantee that exchanges will remain open under most circumstances.

**D. ECNs: Pros and Cons**

As access to information becomes available to more investors through electronic communications and access is eased through ECNs, the herd impact will increase its influence in both the securities and commodities industries.\(^{539}\) The effect on capital formation should make it easier to raise capital under most market circumstances, but blur the lines between grades of risk.\(^{540}\) In the commodities markets, it may impair the ability of those markets to accomplish their original functions: price discovery and risk allocation.\(^{541}\)

Exchange consolidation and adoption of electronic trading is expected to reduce costs,\(^{542}\) but their demutualization raises some interesting issues. The roles and

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541. Dietrich Domanski & Alexandra Heath, *Financial Investors and Commodity Markets*, BIS Quarterly Review, Mar. 2007, at 53, 56-67. The increase in interest from non-traditional participants in the market may cause an evolution of the price behavior:

[the] emergence of trading among financial investors in commodity markets on a substantial scale suggests that the determinants of market liquidity may become more similar to those in traditional financial markets. These determinants include the amount of risk capital that financial investors allocate to commodities trading and the heterogeneity of opinions of market participants. One key risk in both regards is a high concentration of trading activity. The demise of Amaranth, which led to a sharp deterioration in liquidity conditions in those tenors of the natural gas futures market where the firm held extensive positions, provides a clear indication of these challenges.

*Id.*

542. CME Group Inc., *A Conversation with President Phupinder Gill and COO Bryan Durkin*, CME
motivations of members and shareholders are different.\(^{543}\) Historically, exchanges limited membership to establish minimum financial and other industry standards and to bolster the exchanges’ financial integrity and prominence.\(^{544}\) Although often in synchronicity, members could hold divergent views on the best course of action for the exchange. Shareholders, conversely, provide capital for the operation of a venture with profit-seeking motivating their actions.\(^{546}\)

Many exchanges acknowledged these differences by extracting the trading rights from the ownership rights.\(^{547}\) These differences are likely to become more pronounced over time.\(^{548}\) Thus, exchanges are likely to face increasing pressures from shareholders to become more profitable, possibly at the expense of their regulatory requirements.\(^{549}\) This conflict of interest, however, is already present at every other level throughout the financial service industry: the brokerage firm, the broker, and the analyst. Exchanges are the only intermediaries in this group that are quasi-governmental.\(^{550}\) They are responsible

\(^{543}\) See Lukken, supra note 527, at *2 (acknowledging that the “public listing of exchanges is significant . . . because exchanges can more quickly and effectively make competitive decisions than before in their member-driven organization”).

\(^{544}\) See Banner, supra note 11, at 120 (discussing the benefits accruing to members of the NYSE).

\(^{545}\) See Stephen C. Pirrong, The Self-Regulation Of Commodity Exchanges: The Case Of Market Manipulation, 38 J.L. & ECON. 141, 158 (1995) (noting that “exchanges are coalitions of individual members with divergent interests”). Some of the most significant decisions an exchange can make relate to the enforcement actions they take, or elect not to take. In this respect, the exchange members’ interests are most starkly divided because inevitably, an enforcement action imparts a cost on some members, possibly to the benefit of other members. See id. at 159-60 (citations omitted). It has been noted that:

exchange rule enforcers may not use their discretionary authority to stop manipulations because their decisions are intended to balance the interests of parties contending for [economic] rents, rather than to maximize efficiency. In the context of this analysis, an exchange’s decision makers do not make decisions that maximize the wealth of its members. Instead, they trade off support from longs and shorts and settle on some intermediate outcome. Thus, one would not expect exchange directors to impose an efficient, competitive allocation.

\(^{546}\) See Lukken, supra note 527, at *2 (citing the NYSE’s merger announcement with Euronext within weeks of its public offering as an example of a transaction that a member driven exchange would not have taken, but that a profit motivated public company would undertake).

\(^{547}\) See, e.g., Memorandum from the Div. of Trading & Mkts. To the Commodity Futures Trading Comm’n (Feb. 6, 2006) [hereinafter CFTC, Memorandum], available at http://www.cftc.gov/tm/tmcme_demutualization_memo.htm.

\(^{548}\) See id. (forecasting that “under a demutualization plan, over time the percentage of shareholders that are also market users may, and probably will, decrease”).

\(^{549}\) See id. (qualifying its acknowledgement that “[i]t is possible that a for-profit exchange, interested in reducing expenses to enhance stockholder value, might consider reducing self-regulatory programs or dedicate insufficient resources to its existing programs” by suggesting that “this risk is also inherent for a mutual exchange whose members may also be interested in cutting costs to themselves”).

\(^{550}\) See MARKET 2000, supra note 89, at VI-3 (acknowledging that the “[Securities and] Exchange Act [of 1934] requires SROs to act as quasi-governmental bodies implementing the federal securities laws as well as their own rules”); see also John W. Carson, Conflicts Of Interest In Self-Regulation: Can Demutualized Exchanges Successfully Manage Them? 3 (World Bank Policy Research Working Paper Series, Paper No. 3183,
for providing a forum to resolve conflicts among their members and their clients. Historically, even conflicts that affected oversight were more difficult to detect because the exchanges were private organizations. 551 Thus, the fundamental changes, which are already taking place, are changing relationships between intermediaries and their customers and the intermediaries and their regulators.

Many believe that the reorganization of exchanges into for-profit, public companies was fundamental to their continued growth. As the exchanges began to focus on profitability, to most, 552 an obvious conflict surfaced when attempting to regulate their customers from whom they derive their income. 553 The exchanges rely on several alternatives to minimize the conflict: 554 outsourcing their regulatory functions 555 or establishing prominent roles for independent directors in the regulatory and oversight areas of exchange governance are most common. 556

Independence requirements for public companies have already undergone recent revisions. 557 Some studies suggest that the more independent directors, the less likely a company will engage in fraud. 558 Exchanges that adopt this approach for the oversight of

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551. See CFTC, Memorandum, supra note 547 (identifying insufficient funding for regulatory obligations as one of the regulatory issues with demutualization).

552. But see Oesterle, Assault, supra note 179 (suggesting that the new electronic exchanges and alternative trading systems should not be regulated like the traditional exchange).

553. See CFTC, Memorandum, supra note 547, at IV.A.1 (stating that “[f]or-profit exchanges must consider shareholder interests, perhaps at the expense of the interests of market users”).

554. See Carson, Conflicts, supra note 550, at 3 (categorizing exchanges’ efforts to manage conflicts of interest as the following: 1) enhancing corporate governance requirements; 2) imposing ownership restrictions; 3) reinforcing exchange’s public interest mandate; 4) upgrading supervision by regulator; 5) strengthening exchange internal controls and management processes; 6) transferring regulatory functions to an independent SRO; and 7) transferring regulatory functions to a public regulator).

555. See, e.g., NASD Bylaw Amendments, Exchange Act Release No. 56145, 2007 SEC LEXIS 1640 (July 26, 2007) (approving rule changes “to implement governance and related changes to accommodate the consolidation of the member firm regulatory functions of NASD and NYSE Regulation, Inc.”). Although outsourcing these functions to national associations or private companies may be a viable option, apparently direct federal oversight is out of the question. According to the SEC, direct oversight of intermediaries by the federal government failed because it was inefficient (probably the first time the federal government extricated itself from a regulatory role because of inefficiency), “weak links in the program regarding rulemaking and data collection” which could not be improved, and a capitulation that the “SROs are better able to offer the required degree of expertise to handle day-to-day industry problems expeditiously.” MARKHAM, supra note 89, at VI-6.

556. Results of recent studies “indicate that board composition and the structure of its oversight committees are significantly related to the incidence of corporate fraud.” Hatice Uzun, Samuel H. Szewczyk, & Raj Varma, Board Composition and Corporate Fraud, FIN. ANALYSTS J., May-June 2004, at 33, 41. However, some of the worst financial scandals in history occurred at public companies having a majority of outside directors on their boards, including Enron and Worldcom. MARKHAM, supra note 215, at 227-28. Also, other studies show that increasing the number of outside directors does not improve economic performance. Robert W. Hamilton, Corporate Governance in America 1950-2000: Major Changes But Uncertain Benefits, 25 J. CORP. L. 349, 367 (1995).

557. “The scandals at numerous high-profile companies have led to public perception of a crisis in corporate governance, to subsequent passage of the Sarbanes–Oxley Act, and to establishment by the NYSE and Nasdaq of strengthened governance requirements, including enhanced oversight by independent company directors.” Id.

558. See id. at 41 (finding “that a higher proportion of independent outside directors is associated with less
their regulatory functions have taken the “more is better” philosophy and point to it as a perceived extra layer of caution. There is no indication, however, whether these minimal requirements lead to the same conclusions of effective independent directors in exchanges.\(^{559}\) Ultimately, however, this philosophical roadblock must face the reality that most public companies select their independent directors after approval by the chief executive officer.\(^{560}\) As existing exchanges transform into for-profit entities, they will look to achieve efficiencies in all aspects of their operations, regulatory consolidations being one of them.\(^{561}\) New exchanges may also consider outsourcing regulatory functions because, as a business decision, it reduces, or at least quantifies, a significant expense that the exchange will face. National industry associations, which already perform regulatory functions that overlap with exchanges, would likely satisfy federal regulators and speed up the approval process, FINRA being a good test case.\(^{562}\) Other acceptable third parties could include affiliated or wholly owned existing exchanges that already provide support.\(^{563}\)

### E. Financial Market Fees

ECNs provide the benefits of straight-through processing for market users.\(^{564}\) That
advantage is compelling to large money managers and hedge funds. Market users who established large positions, primarily hedge funds and money managers, were the most likely to suffer from information delays. These customers are not new to the commodities markets, but the latest increase in the size of their positions is noticeably more significant than in recent times. Moreover, the hedge funds’ affection for electronic trading platforms is a likely factor in the exchanges’ development of their trade-matching systems.

The intermediaries’ new role, in particular the ECN’s new role, is reflected in the services they provide and the fees they charge. “Market participants have incorporated technology into their businesses to provide investors with an increasing array of services, and to furnish these services more efficiently, and often at lower prices.” As competition among the intermediaries increases, their business margins continue to thin and they are left with the choice to consolidate or close. To some, it is no surprise that shrinking margins are responsible for the decline in intermediaries.

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565. Order execution speeds remain of concern:

The average NYSE floor execution time, even going back as little as three years ago, was approximately 14 seconds. Today most trading venues (including the NYSE floor) measure execution time in milliseconds and some in micro seconds and it is not rare for an order to be matched in 3 to 7 milliseconds.

As execution times become measured in milliseconds, physics (more specifically—the speed of light) becomes an issue. If an exchange/ECN operates in single digit milliseconds and it takes 32 milliseconds for light (in a vacuum) to travel from San Francisco to New York and back, then by definition a trader in San Francisco will never be able to effectively trade fast-moving US Equities. This is no longer a theoretical problem. Speed has become so critical that distance hosting has even become an issue for Eastern US-based firms that do not have local data centers.

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567. See id. at 59.

568. See William Plasencia, Clearing Firms Gain New Clout by Supplying Investment Services That Can Provide Edge, AM. BANKER, July 20, 1995, at 14 (identifying financial advantages banks and brokerage firms receive if they employ clearinghouses with automated functions and services); see also Click Boom, supra note 179, at 25 (attributing the success of electronic trading to a shift in “customer values from personal relationships to a focus on the highest value”).


570. See Ivy Schmerken, New ATSs Arise to Fill a Void, WALL STREET & TECH., at 31, Oct. 1, 2005, (describing the cause of consolidation as “the ECN population plummeting from a dozen or so in the late 1990s to a handful today and the equity markets approaching a duopoly”).

571. Patrick Arbor, Testimony before the Risk Management and Specialty Crops Subcomm. of the U.S. H. Agriculture Comm. (Apr. 15, 1997) (“In 10 years the number of registered professionals have shrunk by about 8 percent. Even more telling, the number of FCMS has contracted by 39 percent. Today only 233 FCMS are sending orders to the seven unaffiliated exchanges, now actively trading future contracts down from nine in
Many pundits suggest that electronic trading will also reduce trading fees. \(^{572}\) Indeed, some fees will likely be reduced or eliminated. \(^{573}\) The more significant consequence, however, is who will receive the lion’s share of fees. Electronically executed trades push the fees up the food chain. \(^{574}\) Exchanges that charged fees under a floor-based system were part of a series of fees associated with the execution of the order, which included floor brokers, introducing brokers, clearing members, the clearinghouse, and the exchange itself. With direct access to trade-matching systems through proprietary or third party order routing or front-end systems, more intermediaries, including exchanges, are taking on customers directly. \(^{575}\) An electronically processed trade could reduce that list to the clearing member and the exchange itself, providing these two entities with the opportunity to collect a larger piece of the fee pie.

The fee battles are as much about services as they are about fees, with intermediaries continuously adding more offerings and sophistication to their list. \(^{576}\) One common service the security and commodity industries both provide is the dissemination of news. Imperfect information across markets and investors is a common arbitrage from which intermediaries profit. \(^{577}\) One reason asymmetrical information exists is the high level of

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1987.”); see also GROUP OF TEN, supra note 540, at 81 (predicting that “we can expect to see increasing concentration in the [U.S.] financial services sector in the future”).

572. See Oesterle, Assault, supra note 179, at 19 (identifying two of the advantages that electronic trading systems have over traditional exchanges as lower rates due to the elimination of fees and commissions to floor brokers and specialists and increased certainty in trade execution).

573. See Letter from Thomas W. Sexton, Vice President & Gen. Counsel, Nat’l Futures Ass’n to David Stawick, Office of the Secretariat, Commodity Futures Trading Comm’n Attachment (Nov. 20, 2007) (attributing a fee reduction to the “sustained strong growth in public trading volume”), available at http://www.nfa.futures.org/news/newsRuleSubletter.asp?ArticleID=1998; see also Edgar Ortega, Bats Market Doubles its Business After Cutting Trading Fees, BLOOMBERG NEWS, Jan. 4, 2007, at 1 (describing a BATS promotional event where the ATS charged 20 cents per 100 lot orders for the month of February 2007 and anticipating a doubling of its average daily volume); Schmerken, supra note 570, at *1 (citing a Track ECN press release describing recent changes in “which [Track] recently revamped its pricing structure to offer the highest rebates and lowest access fees in the industry”).

574. SEC Regulation NMS has created a complex regulatory system for fees charged by SRO participants for market data. 70 Fed. Reg. 37,496, 37,562-3 (June 29, 2005).

575. See, e.g., HEDGE STREET, INC., RULES, R. 3.1 (2008) (identifying the requirements for individuals to become a member as: U.S. residency; “old enough to enter into a legally enforceable contract”; maintain a bank account; complete an application; and fund the trading account with an initial deposit of $100 to HedgeStreet’s “customer segregated funds account”), available at http://www.hedgestreet.com/pdf/hedgestreet_rules.pdf.


577. Interestingly, the existence of asymmetric information may lead to disintermediation, which is one of the reasons intermediaries reduce fees, but it is also at the heart of many other issues they face, like consolidation of the intermediaries and regulators:

Financial intermediaries . . . do make with the market imperfections that mainly stem from informational asymmetries. They may reduce the information and transaction costs within the economy [motivating them to pass along these savings by reducing fees], but they still have to make do with agency problems and with moral hazard and adverse selection. In all, the financial intermediary is a more or less passive agent who intermediates between ultimate savers and investors. The process of disintermediation threatens the agent, as public financial markets promote a more efficient and transparent handling of the allocation of scarce resources in the economy, thanks to deregulation and information technology.
The complexity of the products financial intermediaries offer. Financial intermediaries are particularly aware of the risks associated with asymmetric information. Large intermediaries absorb risk by disseminating information internally through devices like squawk boxes and research reports. Some analysts suggest that the federal securities laws were drafted to account for the likelihood that investors would not understand these complex instruments by imposing obligations on intermediaries to distribute and explain the instruments. In the security and commodity markets, “[c]omplexity heightens ambiguity, which in turn . . . allows people to see what they are already inclined to believe.” Some intermediaries attempt to fill the void and replicate the squawk box to the public. News dissemination alone, however, may not be sufficient to balance the asymmetry of information distribution. Electronic trading may increase the flow and access to information, but it will not, ceteris paribus, decrease its complexity or the costs

Id. at 1249-50.

578. Intermediaries survive and profit from fragmented markets, where most investors have little or no knowledge of what the asset is, let alone its value. See Ruth Simon, We Put Investors To The Test—and Boy, Did They Ever Flunk, MONEY, Mar. 1998, at 37-38 (finding that mutual fund investors did not correctly respond to “basic questions about investment risks and strategies”). Thus, any device that increases transparency will increase competition among intermediaries. A counter-intuitive conclusion drawn in some studies suggests that purchasers of securities originated by financial intermediaries may be more informed as to their value than the intermediaries themselves. See JANET MITCHELL, NAT’L BANK OF BELGIUM, FINANCIAL INTERMEDIATION THEORY AND THE SOURCES OF VALUE IN STRUCTURED FINANCE MARKETS 3 (2004) (identifying a type of asymmetric information problem unique to financial intermediaries). According to this theory:

[Intermediaries originating loans may be less informed about the ultimate market value of their assets than are investment banks which may serve as arrangers; i.e., who purchase the assets, repackaged them by pooling them with assets originated by other intermediaries, and sell the repackaged assets or securities backed by them. Arrangers will have better information about market values of assets when their pricing models are better than those used by the originators. Also, whereas each originator may have good knowledge of the cash flows from its own assets or asset pools, it does not generally possess data on the cash flows from other originators’ pools, in contrast to arrangers, who may have access to such information.

Id. However, this hypothesis may be challenged by the subprime crisis that arose in 2007 as the result of defaults on subprime mortgages that were often originated with little or no documentation. See Vikas Bajaj & Jenny Anderson, Inquiry Focuses on Withholding of Data on Loans, N.Y. TIMES, Jan. 12, 2008, at A1 (describing these problems).

579. Indeed, “dealing with risk is—and always has been—the bread and butter of financial intermediaries. By specializing in information production and processing, and by diversifying individual credit and term risks, they have been able to absorb risk.” Scholtens & van Wensveen, supra note 576, at 1248.

580. “As US banks have grown in size and complexity, many of the largest have begun to develop increasingly sophisticated internal systems for rating the credit risk of assets.” GROUP OF TEN, supra note 540, at 142.

581. See Steven L. Schwarz, Rethinking the Disclosure Paradigm in a World of Complexity, 2004 U. ILL. L. REV. 1, 16 (stating that same point).

582. Id. at 15.

583. See Trade The News, About Us, http://www.tradethenews.com/about-company-history.asp (describing its service as “a pioneer in the completely on-demand and independent research model built around a voice ‘hoot’ network geared towards professional traders that require instant answers”).

584. Schwarz, supra note 581, at 36 (concluding that the current information disclosure paradigm promotes asymmetry between issuers of public securities and their investors because “complexity of structured transactions undermines the long-held disclosure paradigm”).
associated with its simplification.\footnote{585} The battle over fees and services is really a battle over customers. Some intermediaries have grown so large that the possibility of owning their own exchange and ultimately capturing fees paid to exchanges for themselves is a reality.\footnote{586} As this new business model ripples through the industry, eventually, more exchanges will have “members” that look like retail customers,\footnote{587} thus competing directly with intermediaries for the same customers, “direct access customers.”\footnote{588} Fees will fluctuate during this transition period, and after the consolidation phase ends, they will probably increase.

\section*{F. Effects on Regulators}

After outsourcing the rather mundane regulatory functions, exchanges are likely to narrow their regulatory focus to areas in which they are clearly experts.\footnote{589} While these

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\footnote{585. In addition to the velocity of information, however, intermediaries need to be empowered, “disciplined,” and insist on information from their counterparties. Incorporating this information into their risk management systems will increase the costs of managing the information, whereas developing information technology systems and consolidation will reduce these costs:}
\textit{As US financial institutions and markets have evolved, and especially as banking organizations have become larger, more complex, and more involved in both domestic and international financial markets, interest in using market discipline as a supplement to government supervision and regulation has increased. Indeed, market discipline has been enshrined as one of the “three pillars” for controlling bank risk-taking by United States and other G10 bank supervisors. Because market discipline can only be effective if market participants are well-informed, government authorities have expressed considerable interest in improved disclosure. If initiatives in this area proceed and are successful, financial consolidation can, at least from this perspective, be said to have stimulated market discipline.}
\end{footnotesize}
changes tend to limit an exchange’s oversight ability, the intermediaries they are overseeing are broadening their reach. Additional regulatory changes are necessary in light of the ease with which intermediaries and exchanges cross jurisdictional borders. For these reasons, federal regulators and self-regulatory organizations have called upon each other to enter into information sharing agreements.

Information sharing agreements and memoranda of understanding are the initial steps in this direction. Cooperation among the regulatory bodies, inside and outside the United States, is vital in monitoring the industry. In the international arena, cooperation among regulators has evolved from bilateral agreements to multilateral agreements in the form of participation in international organizations. When the need for information sharing in this arena becomes apparent, it often relates to the most fundamental of market information, identifying market participants and the positions they hold. These often occur when a participant engages in market activities in different countries, which is much easier with the advent of electronic trading.

The solution of a unified regulator for the U.S. financial industry has been long debated. The first hurdle to clear down the path towards a single regulator for the security and commodity industries is identifying their roles and missions and determining whether they are compatible. The next step is their acknowledgement that no one regulator has access to all the necessary information in satisfying those missions.

basis for its approval). As a result, these types of functions are migrating from exchanges to government authorities in many countries. Exchanges are increasingly focusing on core regulatory roles that are directly tied to business operations, such as trading supervision. Carson, Conflicts, supra note 550, at 8.

590. See CFTC, Advisory Committee, supra note 519, at 47-48 (testimony of John Foyle) (identifying that intermediaries “dealing on umpteen other markets . . . is not something which can be tackled by one market” and concluding that risk assessment will become a more important role for regulators and that “[n]o one exchange can do that”).

591. See Lukken, supra note 527, at 4.


593. See William Brodsky, A Real Regulatory Redundancy, WALL ST. J., Oct. 19, 2007, at A19 (suggesting that combining the SEC and CFTC “has been a much-needed fix for the past 20 years”); see also Markham, Super-Regulator, supra note 480 (comparing roles of single regulators abroad and discussing pros and cons of consolidation).


Another intermediary step is to assess the effects such a change would have on the industry. The ability of the U.S. government to apply the principles-based regulatory regime to other financial service regulators will ultimately determine whether a unified SEC/CFTC regulator is a success or a theory.

In March 2008, the Treasury Department issued a report that outlines a blueprint for modernizing the existing financial regulatory structure. One of its recommendations is for a merger of the SEC and CFTC. Interestingly, as a prelude to that merger, the Treasury Department has recommended that the SEC adopt a principle-based regulatory structure that would bring it into alignment with the CFTC. Whether that recommendation will ever be adopted is unknown, but it is certainly an interesting proposal and a blow to the SEC’s intrusive rule based approach.

VI. CONCLUSION

The securities industry provides a good example of future trends in the business aspects of the commodities industry while the commodities industry provides an example of the future regulatory aspects of the securities industry. The exchanges’ focus on electronic trading highlights the change in their best customers; from smaller volume commercial hedgers and locals, to large volume special investment vehicles. This change ushered in a growing demand for greater electronic access to the marketplace, and trade-matching algorithms that are efficient, volume-centered, preserve anonymity, and promote a marketplace where market news is decentralized. These forces can increase the likelihood that commodity futures contracts will diverge from their price discovery function.

These changes and the increasing use of regulatory arbitrages raise a number of other policy concerns. In the securities industry, more of the same regulation will only cause further erosion in the comparative advantage in financial services once enjoyed by the United States. The diversion of trading abroad and into ECNs is undercutting the self-regulatory role of the NFA and particularly FINRA. The CFTC and the SEC need to rethink their entire regulatory structure, including whether a single regulator is needed for financial services in order to compete with the FSA in London.


596. Indeed, some financial services regulators believe “it is important to continue to evaluate our regulatory structure and consider ways to improve efficiency, reduce overlap, strengthen consumer and investor protection, and ensure that financial institutions have the ability to adapt to evolving market dynamics . . . .” DEP’T OF THE TREASURY, REVIEW BY THE TREASURY DEPARTMENT OF THE REGULATORY STRUCTURE ASSOCIATED WITH FINANCIAL INSTITUTIONS, 72 Fed. Reg. 58,939 (Oct. 17, 2007).

597. See id. at 58,941 (asking “[w]ould it be useful to apply some of the principles of the Commodity Futures Modernization Act of 2000 to the securities regulatory regime?”).

598. TREASURY DEPARTMENT, BLUEPRINT FOR A MODERNIZED FINANCIAL REGULATORY STRUCTURE (March 2008). This report recommended changing the present “functional” regulatory system used in the United States to the “Twin Peaks” or “objectives” based approach used in Australia and the Netherlands. Id. at 13-14. By looking at risks objectively on a global basis, and not through a narrow mission-based agency’s view (like the SEC’s rules-based full disclosure regime), the report posited that government could better assess risks. Id. It could also better anticipate problems, instead of just reacting to them. Id.

599. Id. at 11-13, 109-11.