

FROM MARKETS TO VENUES: SECURITIES REGULATION IN AN EVOLVING WORLD

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INTRODUCTION.....	563
I. THE ORGANIZATION OF FIRMS AND THE ORGANIZATION OF MARKETS	566
II. SECURITIES TRADING—MARKET STRUCTURE AND REGULATION	569
A. <i>The Old Environment: Tradition Versus Transition</i>	570
B. <i>The Modern Exchange: Demutualized and Publicly Traded</i>	574
III. WHO SHOULD REGULATE WHAT? COMPETITION, COLLUSION, AND CAPTURE IN REGULATORY STRUCTURES	581
A. <i>Listing and Delisting Decisions</i>	583
B. <i>Oversight of Exchange Trading Practices</i>	585
C. <i>Insider Trading and Share-Price Manipulation</i>	588
D. <i>Oversight of Exchange Trading Capacity</i>	590
IV. ALTERNATIVE REGULATORY MODELS—GLOBAL EVIDENCE	593
CONCLUSION	598

INTRODUCTION

The world of securities trading is changing. Advances in technology, combined with the dramatic decrease in the cost of information processing, have conspired to change the way that securities transactions occur. While broker-dealers, specialists, and market makers still ply their trades, they are now joined by a host of new market participants such as robot traders and electronic limit order providers. And while exchanges and the Nasdaq continue to operate, they are confronted by a wide range of competitors including the trading desks of the large broker-dealer firms as well as Alternative Trading Systems (ATSs), the best known of which are Electronic Communications Networks (ECNs) such as Brut ECN, Instinet, and Inet ATS.¹ Trades in

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equities also are executed on the “third market,” which simply refers to firms like Madoff Investment Securities, Knight Trading Group, Jefferies Group, and ITG, all of which arrange trades in exchange-listed stocks on venues other than an exchange. Trading has become a commodity, a standard process whose measure of success is increasingly captured by the simple metric of cost of transacting.

Against this backdrop, stock exchanges are also changing both in function and in governance. Forced to compete after enjoying decades of essentially monopoly franchises, exchanges and markets have had to embrace new technologies or face extinction. Traditionally owned by their members, exchanges worldwide are now converting to become publicly traded corporations. Since 1998, more than a dozen exchanges have publicly listed their shares, leaving only two of the world's ten largest exchanges (New York and Tokyo) as member-owned entities.² Soon there will be only one, as the New York Stock Exchange and the Archipelago Exchange announced on April 20, 2005, that the two firms had entered into a definitive merger agreement that will produce a new, combined entity to be called NYSE Group, Inc.³

In this new world of trading, market forces are requiring dramatic change in market structure and in the way in which competing firms are organized and operated; yet the regulatory structure of securities trading in the United States has remained the same. Can such immutability be optimal in the face of this

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1. LARRY HARRIS, *TRADING AND EXCHANGES: MARKET MICROSTRUCTURE FOR PRACTITIONERS* 49-50, 531 (2003). ECNs are electronic limit order books that allow traders to transact with each other without the intermediation of a dealer or market maker. ATSS include a range of trading mechanisms, such as crossing networks (ITG's POSIT being the most notable), that allow large traders to take electronically transmitted orders and match them at prices determined on other trading venues, such as stock exchanges. These trading systems are completely confidential and permit large traders to avoid exposing their orders to other market participants. Once a series of trades has been executed, only the aggregate sizes of the matches arranged on the system are reported.

2. The first exchange to be publicly owned was the Stockholm Stock Exchange, which became part of OM (a Swedish technology company) in 1998. Since then, almost all of the major stock exchanges have converted, including the London Stock Exchange, the Deutsche Borse, the Hong Kong Stock Exchange, Euronext, the Australia Stock Exchange, the Singapore Stock Exchange, the Toronto Stock Exchange, the Nasdaq stock market, and the Chicago Mercantile Exchange (a futures market). The most recent public offering was that of ArcaEx, which completed its initial public offering (IPO) in August 2004. A number of markets, such as the Philadelphia Stock Exchange, have conversions or offerings pending. For more discussion of exchange conversions, see Alfredo Mendiola & Maureen O'Hara, *Taking Stock in Stock Markets: The Changing Governance of Exchanges* (Cornell Univ., Working Paper, 2003) (on file with authors).

3. See Press Release, NYSE, New York Stock Exchange and Archipelago Exchange Agree To Merge 2 (Apr. 20, 2005), available at http://www.nyse.com/pdfs/joint_release.pdf.

economic upheaval in the markets in which the exchanges operate?⁴

This Article considers the role of self-regulation of the trading markets in the changing world in which exchanges and other trading venues conduct their business. Our particular focus is on the role of self-regulation in a world that has come to be dominated (indeed almost exclusively inhabited) by profit-seeking firms rather than member-owned associations. Our analysis draws on insights from the Coasean view of markets and firms to investigate how economic functions are evolving to meet the new trading environment. A particular thesis we develop is that shifts in transaction costs and agency costs have dictated changes in the optimal economic organization of trading. These changes have forced economic activity to migrate from a centralized market to multiple competing venues. We argue that these shifts, in turn, have changed the optimal ownership structure of exchanges, pushing exchanges away from a cooperative structure to a corporate structure. These new governance arrangements reflect the different incentives that exchange members face in a competitive environment and produce the need for a thorough reexamination of the principles of self-regulation in light of this new environment.

We then argue that while, in an ideal world, regulatory form should reflect economic function, the “market forces” that have changed the organizational structure and corporate governance of stock exchanges have not operated to change the regulatory structure of the exchanges. Consequently, the regulatory structure is asynchronous with the new economic realities of trading.

The traditional regulatory structure relied on self-regulation by members, combined with general oversight by the Securities and Exchange Commission (SEC).⁵ As we argue in this Article, however, this allocation of regulatory responsibilities is now suboptimal. With the incentives of exchanges and other market participants altered, the regulatory framework is ill-structured to provide either oversight or control of trading activity.

A particular problem is self-regulation by profit-seeking firms. We demonstrate that self-regulation by profit-seeking entities may actually be more effective in handling particular regulatory functions than was the case in the past. These functions include activities such as monitoring to prevent manipulation, as well as general oversight of exchange order capacity and

4. The Securities and Exchange Commission is actively considering how to reform the structure of the securities markets. This regulatory initiative, which will culminate in “Regulation NMS” (for “National Market System”), proposes significant changes in equity market structure, particularly in the rules for executing trades in terms of time and price priority and in the extent to which the New York Stock Exchange and other exchanges will be allowed to evolve into more automated markets. Few changes to the basic regulatory structure of the capital markets are being proposed. See Rachel McTague, *PCAOB Chief Auditor: In Section 404 Audit, No Mandate of ‘All Significant Deficiencies,’* SEC. REG. & L. REP. Dec. 6, 2004, available at <http://corplawcenter.bna.com/pic2/clb.nsf/id/BNAP-67AU6Q?OpenDocument>.

5. Roberta S. Karmel, *Turning Seats into Shares: Causes and Implications of Demutualization of Stock and Futures Exchanges*, 53 HASTINGS L.J. 367, 400-02 (2002).

reliability. But other aspects of self-regulation are now fatally flawed because the incentives of those charged with regulating are diametrically at odds with their corporate mandates to maximize profits. We demonstrate how issues such as access to trading, listing and delisting requirements, and supervision of exchange members, employees, and trading practices fall into this category. We also identify dysfunctional aspects of the role played by the SEC, particularly with respect to the Commission's current inability to propose rule changes.

Finally, we consider the broader question of how securities regulation should be handled in this new trading environment. Our analysis provides a number of specific recommendations and is bolstered by our review of evidence from other countries, where global economic forces have forced markets to change sooner, and in some cases more drastically, than has been the case in the United States, at least to date. We investigate several regulatory approaches currently being used in other countries and discuss their applicability to the U.S. market.

This Article is organized as follows: Part I sets out the basic Coasean economic arguments⁶ involving the allocation of economic activity between firms and markets. Our particular focus here is on the impact of transaction costs and agency costs on economic organization. Part II then applies this paradigm to securities trading, providing an analysis of how changes in the economic environment have changed the functions of stock exchanges and markets. This Part also demonstrates how these changes, in turn, have altered the optimal corporate governance structure of markets. Part III then turns to the issue of regulation, considering in more detail the impact of these changes in firms and markets on the self-regulatory process. In that Part, we also analyze how regulatory functions should be allocated across firms and the SEC. Part IV then reviews alternative models for securities regulation currently in use in several other countries.

I. THE ORGANIZATION OF FIRMS AND THE ORGANIZATION OF MARKETS

The issue of how economic activity should be organized has long been a focus of economic interest. The economic differences between organizing production within a firm or within a market were first addressed in Ronald Coase's seminal paper,⁷ and these ideas have been expanded upon by a wide range of scholars.⁸ Central to these analyses is the role played by the costs of organizing economic activity both within firms and across markets.

6. R.H. Coase, *The Nature of the Firm*, 4 *ECONOMICA* 386 (1937).

7. *Id.*

8. See, e.g., KENNETH J. ARROW, *THE LIMITS OF ORGANIZATION* (1974); Kenneth J. Arrow, *Control in Large Organizations*, 10 *MGMT SCI.* 397 (1964); Oliver Hart & John Moore, *Property Rights and the Nature of the Firm*, 98 *J. POL. ECON.* 1119 (1990); Oliver E. Williamson, *The Modern Corporation: Origins, Evolution, Attributes*, 19 *J. ECON. LIT.* 1537 (1981).

Coase's thesis was that the optimal allocation of economic activity involved a tradeoff between the transaction costs and agency costs associated with the activity.⁹ In particular, Coase argued that firms arose because there were costs of using the price system. That is, companies and individuals who demand a product or service can always buy the good from a supplier in the market by paying the prevailing market price. But that market price inevitably will include transaction costs, which often are substantial. Alternatively, those demanding such goods can decide to produce the goods themselves, setting up a firm within which to organize the necessary productive capacity.

In contrast with market transactions, there are no transaction costs when economic activity is organized within a firm, but the firm will incur another distinctive set of costs in the form of agency costs arising out of the interactions between the owners of the firm and the producers of the product. Coase's important observation was that a balance is struck when the firm has expanded to the point where "the costs of organising an extra transaction within the firm become equal to the costs of carrying out the same transaction by means of an exchange on the open market or the costs of organising in another firm."¹⁰

Coase's analysis provides a simple, but profound, diagnosis of the causes and consequences of economic organization. When transaction costs are high, firms prevail as economic activity is organized within firms. When transaction costs are low, markets prevail as economic activity is organized across markets. Oliver Williamson expands on this concept, noting that "[i]t will be convenient to assume that transactions will be organized by markets unless market exchange gives rise to serious transaction costs. In the beginning, so to speak, there were markets."¹¹

Focusing on transaction costs seems particularly relevant when addressing the question of how best to organize securities trading. Trading securities—at least to the extent that such trading involves the trading of equities, options, and futures—has traditionally been organized on centralized exchanges.¹² These exchanges provide a centralized market for buyers and sellers, thereby reducing the transaction costs that such traders incur. But the exchange itself is actually a firm in which the economic processes of trading are bundled and produced. Indeed, exchanges have often enjoyed monopoly status whereby they are the *only* firm producing such exchange services, at least over some geographical or national boundary.¹³ In contrast to Williamson's edict, in the beginning there

9. See generally Coase, *supra* note 6.

10. *Id.* at 395.

11. Williamson, *supra* note 8, at 1547.

12. Iftekhar Hasan et al., *Technology, Automation, and Productivity of Stock Exchanges: International Evidence*, 27 J. BANKING & FIN. 1743, 1746 (2003).

13. For a discussion of exchange rules that conveyed monopoly status on exchanges by limiting off-exchange trading in listed securities, see Jonathan Macey & David Haddock, *Shirking at the SEC: The Failure of the National Market System*, 1985 U. ILL. L. REV. 315; Jonathan Macey & Hideki Kanda, *The Stock Exchange as a Firm: The Emergence of Close*

was a single firm providing the market.

Why did securities trading originally gravitate to such a firm-based organizational structure? In an earlier work,¹⁴ we argued that the transaction costs of securities trading historically were very significant, particularly in relation to the overall value of the transactions themselves. These transaction costs included the information costs of learning about firms (or potential investments), the costs of monitoring trading, the physical costs of the trading platform, the costs of clearing and settlement, and the basic contracting costs of trading between buyers and sellers. Exchanges thus produced a vector of products, and these products involved a high degree of what Williamson termed "asset specificity."¹⁵

Asset specificity refers to the fact that customized or specialized assets often cannot be easily transferred to other uses. Highly specific assets represent sunk costs that have relatively little value beyond their use in the context of a specific transaction or dedicated deployment.¹⁶ It is expensive to operate an exchange floor, and so, too, is it costly to monitor particular trades and to certify the attributes of the firms being traded. Moreover, when trading volume was relatively light, the average cost of specialized trading in a particular security was higher, as there were fewer trades per unit of time spent on the trading floor.

As trading volume increased, it became economically feasible for more than one person to invest in the specialized assets necessary to provide a continuous market in the trading of a particular security. Moreover, a single exchange economized on all of the costs associated with offering secondary market liquidity in a security by performing these functions over and over again. Replicating such activities by competitors was thus precluded by the cost of developing the specific assets needed to do so and the need to amortize this cost over a large number of transactions.

A second factor favoring the organization of the industry as a single firm rather than as a cohort of firms competing across a market was the intrinsic nature of the product being produced. Historically, exchanges produced a

Substitutes for the New York and Tokyo Stock Exchanges, 75 CORNELL L. REV. 1007 (1990).

14. Jonathan R. Macey & Maureen O'Hara, *Globalization, Exchange Governance, and the Future of Exchanges*, in BROOKINGS-WHARTON PAPERS ON FINANCIAL SERVICES 1 (Robert E. Litan & Anthony M. Santomero eds., 1999).

15. Williamson, *supra* note 8, at 1548.

16. The well-known example of the tendency to organize specific assets within a single firm is the 1926 merger of Fisher Body into General Motors (GM). The companies had close contractual relations, but GM wanted Fisher Body to relocate its plants to be adjacent to GM plants to make monitoring easier and to economize on transportation costs. Fisher Body was merged into GM in 1926 after the company rejected GM's locational demands. As Coase recalls, "I was told [by GM officials] that the main reason for the acquisition was to make sure that the body plants were located near General Motors assembly plants." R.H. Coase, *The Nature of the Firm: Origin*, in THE NATURE OF THE FIRM 43 (Oliver E. Williamson & Sidney G. Winter eds., 1993).

November 2005]

FROM MARKETS TO VENUES

569

vector of products, among them liquidity for the shares traded. Listing firms needed the exchange to provide liquidity, but the exchange was also dependent on the listing firms to provide the shares to trade. Such codependence typically favors organizing as a firm because the relationship requires specific investments by both parties, and the anonymity of markets precludes extracting value from such an investment. Thus, for a variety of reasons, exchanges were organized as single firms doing many things.

Times have changed. The advent of technology has dramatically reduced the costs of trading, thereby allowing a wide range of competitors to enter what was traditionally the exchange's sole province. Similarly, whereas the exchange once enjoyed a preeminent role in functions such as signaling issuer quality, now a host of alternatives such as financial analysts, newsletters, and investment banks provide a larger quantity and a higher quality of information about issuers. Moreover, oversight by bodies such as the SEC, the NASD, and even states' attorneys general have eroded the value of the exchange's monitoring function because the oversight provided by these entities is, from the investors' perspective, a close, and perhaps superior, substitute for monitoring by exchanges which, like other self-regulating entities, face a conflict of interest when called upon to monitor and to enforce regulations against themselves. Indeed, even the relationship nature of the business has changed as the multiplicity of trading venues now means that issuers' shares need not be traded in the same venues in which issuers' shares list.

These changes reflect an overall shift in the transaction costs of securities trading. Now the business of an exchange involves almost purely the provision of liquidity, and trading has become a commodity business. Exchanges must compete with a wide range of competitors, forcing exchanges to adapt both their economic form and function. In the next Part, we argue that the balance between agency costs and transaction costs has shifted, necessitating a change in the optimal organization of trading. These changes, in turn, have important implications for the regulation of trading in a world of many trading venues.

II. SECURITIES TRADING—MARKET STRUCTURE AND REGULATION

The high transaction costs associated with entering the business of offering liquidity services meant that it was optimal to organize the panoply of services associated with securities trading into a single, multipurpose firm, which we know as an "exchange." The exchange provided a wide range of services, including signaling, regulatory oversight, internal rules of corporate governance, clearing, and the provision of liquidity. The exchange, in turn, like all firms, faced agency costs, and these internal costs were addressed by adopting the corporate governance structure of a member-owned cooperative.

A. The Old Environment: Tradition Versus Transition

The critical characteristics that describe the environment in which exchanges historically operated were: (1) homogeneity among members; (2) monopoly power in the market for secondary trading in listed securities; and (3) a regulatory scheme organized as a system of self-regulation with SEC oversight to keep the monopolist/regulator in check.¹⁷

Each of these characteristics is related. As monopolists, exchanges had a strong economic incentive to pass rules that would increase the overall size of the markets for listed securities, as this would increase the exchanges' overall monopoly profits. Because market participants were quite homogeneous, there was a significant convergence of interests between exchanges and members with respect to regulation. What was perceived as being in the interests of exchange members was also perceived as being good for the development of the market. And, in turn, what was perceived as being good for the market was also perceived as being good for investors and issuers.

Similarly, exchanges and listing firms also had interests that were closely aligned, historically. Perhaps the most important example of this phenomenon concerns the unity of interest between listing firms and exchanges with respect to the issue of committing to *remaining* listed on an exchange after listing. Both the listing firms and exchanges had an incentive to make binding commitments to one another. Listing firms wanted to be able to commit to investors that they would abide by certain corporate governance rules, and thus the firms found it important to be able to make a credible commitment to investors that they would remain listed and continue to be subject to the listing rules of the exchanges on which they initially listed. At the same time, the exchanges themselves wanted to attract listing firms that would commit to the utilization of their trading venues.

In the prevailing competitive environment under which exchanges currently must operate, in contrast, there is little or no homogeneity of interests among the various constituencies of the exchange. The dramatic fall in the transaction costs associated with operating a trading venue has transformed the relationship among issuers, trading venues, and investors from a relationship business into a commodity business.

Because of the reduction in transaction costs, particularly with regard to the acquisition and deployment of the technology and communications systems needed for trading and for monitoring trading, exchange members such as Goldman Sachs and Merrill Lynch not only participate directly in the operation of the stock exchange but simultaneously *compete* with the stock exchanges, both by internalizing order flow on the buy and sell side of the same transaction

17. Karmel, *supra* note 5, at 400-02; see also Joel Seligman, *Cautious Evolution or Perennial Irresolution: Stock Market Self-Regulation During the First Seventy Years of the Securities and Exchange Commission*, 59 BUS. LAW. 1347 (2004).

November 2005]

FROM MARKETS TO VENUES

571

and by offering ECNs and ATNs that directly compete with the exchanges for order flow from third parties.¹⁸

Self-regulation in this new environment is bound to fail, because the homogeneity of interests that was critical to the success of the old model no longer exists. The heterogeneity of interests that characterizes the current trading environment is most acutely described by the fact that exchanges, to the extent that they are permitted to regulate their members, are able to regulate firms that are also their direct competitors for listings¹⁹ and for trading volume²⁰ in the case of firms listed on multiple trading venues.

Moreover, the multiplicity of competitive venues now results in the paradoxical situation that exchanges engaged in self-regulation are being regulated by, and are regulating, their competitors. This is a system whose structural features make success highly unlikely. These agency problems are a key factor in inducing exchanges to convert from nonprofit mutual form to profit-seeking firms. Exchanges are now simply one among several trading venues for listed securities. They are not the monopoly markets that they once were.

For example, exchange members, and their customers, often will prefer to execute a trade on a venue other than an exchange. Even among particular constituencies, such as investors, there is growing heterogeneity of interests, as some investors prefer markets that give priority to maintaining narrow spreads, while others prefer giving priority to speed of execution. Thus market participants can no longer even agree on what is the best way to execute trades.²¹

Henry Hansmann has argued that the “truly striking feature” which distinguishes worker-owned firms is the “strong homogeneity of interest among the workers involved” in these firms, as distinct from the more heterogeneous interests of the labor inputs in investor-owned firms.²² The same analysis can be applied to mutually organized firms such as exchanges. As the NYSE itself argues, the homogeneity of the interests of exchange members is what

18. For example, Goldman Sachs owns Speer, Leeds & Kellogg (one of the largest specialist firms on the NYSE), has a substantial interest in ArcaEx (the firm created by the merger of the Archipelago ECN with the Pacific Stock Exchange), and has interests in several other competing ECNs, such as Brut.

19. Take for example trading in Nasdaq stocks that qualify for listing on the NYSE, such as Intel or Microsoft. The NYSE has a strong incentive to list such stocks in order to garner the listing fees along with the revenue from the sale of trading data and from the transaction fees in listed securities paid by specialist firms. By contrast, member firms such as Merrill Lynch and Goldman Sachs would prefer that firms such as Intel or Microsoft continue to decline to be listed so that those firms' current role as market makers in these stocks is not displaced by the NYSE.

20. To the extent that a company is listed on multiple venues, including the NYSE, NYSE member firms that also own rival trading venues compete directly with the NYSE.

21. See discussion of the trade-through rule *infra* Part III.

22. Henry Hansmann, *Ownership of the Firm*, 4 J.L. ECON. & ORG. 267, 294 (1988).

historically caused incentives to align such that the cooperative form of ownership was a successful organizational paradigm: "The [cooperative ownership] structure [of the NYSE] seeks to maximize the efficiency, reliability and integrity of the market, rather than to maximize profit as in the public company model."²³

What is particularly important in determining which firms will be owned by customers or workers, and which will be owned by outside investors is homogeneity of jobs and skills: labor cooperatives appear to work best where all the workers who are also members of the cooperative perform essentially identical tasks within the firm. For example, Hansmann observes that in law firms, partners have similar skills and perform similar tasks, and that "there is relatively little vertical division of labor or hierarchy among the partners in the firm."²⁴

What drives Hansmann's insight is the necessity for the firm to divide net income among members and to make policy decisions that affect all members. Worker-owned enterprises, such as law firms and plywood cooperatives, tend to divide pay equally among worker-owners. Worker ownership succeeds because, to the extent that workers do the same jobs, they are affected similarly by any decision made by the firm. Alternatively, where workers in worker-owned firms perform different jobs, it is "important to the viability of the firm that the returns to those jobs be separable."²⁵

The original organization of the New York Stock Exchange (NYSE) as a not-for-profit member-owned cooperative and self-regulatory organization²⁶ was consistent with Hansmann's observations in that returns to members could be allocated simply via trading revenues. Over time, the actual costs of running the exchange were largely shifted to the listing firms, leaving the members free to extract rents via brokerage and market making activities.²⁷ This development, in turn, created divergences in the operations of the exchange, with some aspects reflecting features more akin to investment banking firms, while other dimensions remain closer to the "public utility" focus of the past. The cataclysmic problems at the NYSE surrounding Richard Grasso's compensation package illustrate how divisive these disparate roles have become.²⁸

23. See White Paper, NYSE, Governance of the New York Stock Exchange, Inc. 5 (May 2003), available at <http://www.nyse.com/pdfs/governancewhitepaper.pdf>.

24. Hansmann, *supra* note 22, at 295.

25. *Id.*

26. White Paper, NYSE, *supra* note 23, at 1.

27. Jonathan R. Macey & Maureen O'Hara, *The Economics of Stock Exchange Listing Fees and Listing Requirements*, 11 J. FIN. INTERMEDIATION 297 (2001).

28. Dan Ackman, *NYSE Bell Tolls for Grasso*, FORBES.COM, Sept. 18, 2003, http://www.forbes.com/2003/09/18/cx_da_0918topnews.html; Kate Kelly & Susanne Craig, *Spitzer Files Suit Seeking Millions of Grasso Money*, WALL ST. J., May 25, 2004, available at http://online.wsj.com/article/SB108540677559419533.html?mod=home_whats_news_us.

At the margin, member or worker ownership of firms such as stock exchanges also may be efficient where the capacity of workers to monitor the management of the firm is superior to that of outside investors.²⁹ As with most workers, stock exchange members are knowledgeable about the firm's operations (or at least certain aspects of the firm's operations) and can come together to make decisions relatively cheaply. However, in light of the lack of meaningful corporate governance participation by stock exchange members (witness again the Grasso controversy and the lack of information, much less the corporate governance participation by members with respect to that issue), it is difficult to imagine that the employees of the NYSE or other exchanges are characterized by especially high capabilities with respect to monitoring. This seems particularly true in light of the fact that the major competitive issues facing the exchanges clearly are in the realm of technology investment and competition from more technologically based trading systems. This is not an issue over which member/worker monitoring is likely to add much, if any, value.

Finally, while it is true that a firm's workers and managers are likely to have strong incentives either to obtain and use information themselves or to find agents who have the capacity to do so, a firm's remote investors, as Henry Hansmann calls them,³⁰ have stronger incentives than workers or managers to use this information in ways that increase the overall value of the firm.³¹ The workers and managers, by contrast have incentives to use their superior access to firm information in ways that provide private, rather than firm-wide, benefits. Specialists, broker-dealer firms, and other exchange members all have incentives to use rulemaking authority to benefit themselves at the expense of the firm as a whole.

Stock exchanges are increasingly risky ventures. Small changes in regulation, technology, or consumer demand can result in significant losses or even failure. Some evidence for this phenomenon can be found in the complex web of cross-ownership in alternative trading venues, particularly ECNs. As David Brown of the Ontario Securities Commission recently observed:

No one, including industry professionals, seems to know where the new world of competition among exchanges, ECNs and ATNs will lead. A look at the cross-ownership of ECNs and ATNs illustrates the point. A chart depicting their ownership resembles a spider web, with strands being held by investment banks, brokerages, and even news media.

Investors in the ECN Archipelago include a cable network, CNBC; an

29. *Id.*

30. Hansmann, *supra* note 22, at 293.

31. Remote investors have stronger incentives to use this information in ways that increase the overall value of the firm because the only way that such investors can earn a return on their investments in the firm is by increasing the overall value of the firm. In contrast, workers and managers benefit more by seeking private benefits from their positions in the firm because they can capture all such private benefits and do not have to share such benefits with the remote investors.

online brokerage, E*Trade; another ECN, Instinet; as well as Merrill Lynch and Goldman Sachs.

Merrill and Goldman Sachs also own interests in Brut, along with Morgan Stanley Dean Witter; and in OptiMark, along with Paine Webber; Dow Jones—which owns the Wall Street Journal; and Softbank, which also owns a significant stake in E*Trade

Everyone seems to be putting small bets on every horse in the race, in hopes that at least one of them will make it to the finish line.³²

Thus, to the limited extent that worker ownership is related to risk, it is clear that outside owners, who are clearly more efficient risk-bearers, are better suited to run exchanges than are the members or workers in those exchanges. What is less clear is whether those outside owners are equally adept at self-regulation, which has been and remains the regulatory framework for securities trading.

B. The Modern Exchange: Demutualized and Publicly Traded

Faced with a dramatically altered economic environment, exchanges have had to adapt in both form and function. One response to the new competition has been demutualization.³³ A second and distinct response has been for the demutualized entity to launch an initial public offering (IPO). We view the demutualization process as accomplishing the three identified goals of aligning incentives, reducing rent-seeking, and facilitating outside capital formation. Demutualization thus allows the exchange to operate more efficiently.

Still another efficiency advantage of demutualization is that it permits a market for corporate control of exchanges to emerge. The market for corporate control is perhaps the most important corporate governance device available to align the interests of managers and investors. The market for control creates incentives for managers to further shareholder interests by threatening managers with job loss if they do not maximize share value.³⁴ It is an undisputed fact that takeovers generate substantial gains for the target's shareholders. All studies, regardless of the time period or the form that the acquisition takes, find statistically significant positive abnormal returns to target shareholders upon the announcement of a bid.³⁵ For example, persistent efforts to take over the London Stock Exchange, first by Sweden's OM Group, then by Deutsche Börse, and most recently by the pan-European exchange

32. David A. Brown, Chair, Ont. Sec. Comm'n, Relevant Regulation in a Global Economy, Speech Before the Financial Services Institute National Club (Sept. 27, 2000), available at http://www.osc.gov.on.ca/About/Speeches/sp_20000927_db_global-econ.jsp.

33. Benn Steil, *Changes in the Ownership and Governance of Securities Exchanges: Causes and Consequences*, in BROOKINGS-WHARTON PAPERS ON FINANCIAL SERVICES: 2002 61, 63-65 (Robert E. Litan & Richard Herring eds., 2002).

34. FOUNDATIONS OF CORPORATE LAW 229-66 (Roberta Romano ed., 1993) (including selected articles on external governance structures).

35. *Id.*

Euronext, illustrate our point that demutualized exchanges are subject to the market for corporate control. The emergence of this market will discipline management, promote technological innovation, and generally improve the efficiency of the demutualized exchanges.³⁶

The question to which we turn in the Part below is whether demutualization allows exchanges to *regulate* more efficiently. The defense of the stock exchange as effective self-regulator has been made most forcefully by Paul Mahoney, who argues for a dramatic expansion in the scope of regulatory authority commanded by stock exchanges.³⁷ The essence of Professor Mahoney's argument is incentive based. He argues that, like other producers,

[e]xchanges should have strong incentives to adopt rules that benefit investors. . . . Exchanges are typically owned by their members, who are stockbrokers or other professional intermediaries. Because their incomes rise as the volume of transactions rises, intermediaries create stock markets, which attract investors by offering liquidity. As a provider of liquidity, an exchange competes with other exchanges and over-the-counter markets, both to attract companies to list and to induce investors to purchase listed securities. The securities market as a whole also competes for investor funds with real estate, precious metals, collectibles, and so on.³⁸

There are three fundamental problems with this argument. First, while Professor Mahoney is correct that exchanges compete for listings, his argument does not account for the critical difference between the initial competition among trading venues to obtain a listing and the ongoing competition among exchanges to attract trading volume. For better or for worse, today's securities markets are characterized by simultaneous trading in multiple venues.³⁹ This simultaneous trading in multiple markets creates serious problems for those who would regard the exchanges as viable sources of regulation without guidance or coordination from the government.

One also must account for the fact that promulgating regulations is costly. Enforcement of regulations may be even more costly. For example, in 2003, the NYSE charged \$113,506,000 in regulatory fees, a figure that accounted for 10% of the Exchange's revenues.⁴⁰ Significantly, the \$113.5 million in regulatory fees is ten times more than the \$11 million that the NYSE received

36. Heather Timmons, *Europe Ponders How Best To Trade Stocks*, N.Y. TIMES, Dec. 21, 2004, at W1.

37. Paul Mahoney, *The Exchange as Regulator*, 83 VA. L. REV. 1453, 1454-55 (1997).

38. *Id.* at 1457-58.

39. Yakov Amihud & Haim Mendelson, *A New Approach to the Regulation of Trading Across Securities Markets*, 71 N.Y.U. L. REV. 1411, 1412 (1996).

40. NYSE, INC., 2003 ANNUAL REPORT 26 (2004). The NYSE's revenues are received from the following sources (in order of decreasing magnitude): listing fees, data processing fees, market information fees, trading fees, regulatory fees, facility and equipment fees, membership fees, and investment and other income. Meanwhile, the NASD and NYSE had a combined regulatory staff of 2650 and a regulatory budget of \$624 million in 2003. *See* Seligman, *supra* note 17, at 1384.

in revenue from membership fees.⁴¹ These regulations create a significant public good since the regulations clearly benefit entities besides the firms that pay for them. As with other public goods, the regulatory activities conducted by the NYSE and other exchanges are subject to significant free-rider problems. Rival trading venues, particularly companies operating ATNs and ECNs, can free-ride on these regulatory efforts, since those venues can trade NYSE- and Nasdaq-listed securities without incurring any regulatory costs. Individual investors and traders who transact on other markets do not pay for regulation, but they directly benefit from it. Since the NYSE and other exchanges cannot exclude rival companies from the benefits stemming from the exchanges' regulatory expenditures, they will likely underproduce regulation.

A second problem with Professor Mahoney's analysis is that it is based explicitly on the premise that securities exchanges are cooperatively owned by their members. But this is no longer the case. Mahoney provides no theory for the transformation from mutual to stock ownership, and no account of the consequences of this change. If, as Mahoney suggests, member ownership of exchanges is what creates the incentives to adopt rules that benefit investors, then the switch away from member ownership that we have observed in recent years should undermine the case for exchange self-regulation. While it is true that, in general, listing firms, like other producers, have strong incentives "to supply goods or services that customers desire,"⁴² once the listing firm has sold its shares to the public, that incentive may diminish significantly, particularly when the firm that has listed its shares has no immediate plans to make another public offering of its shares.

For listing firms this would appear to mean that they strive to create a strong secondary market for their firm's shares. It is important, however, to distinguish firms' public-regarding ex ante preferences for regulation from their private-regarding preferences ex post with respect to regulation. Ex ante, at a time when a company is selling its shares to the public, it has incentives to lower its capital costs. One way of doing this is to opt into a set of efficient legal rules to prevent or impede later diversions of wealth from investors. However, ex post, once the shares have been sold and the company is listed on an exchange and is being traded, management has an incentive to renege on the agreements it has made with investors whenever possible.

In today's environment of multivenue trading, the problem of such ex post opportunistic behavior looms quite large. There is nothing that an exchange can do to enforce its regulations when firms are willing to cease doing business with the exchange by delisting their shares and removing themselves from the scope of the exchange's regulatory reach. Over time, the ability of listing firms to make credible, ex ante commitments to acquiesce to the exchanges' ex post enforcement of rules has been eviscerated. Firms that are threatened with

41. NYSE, INC., *supra* note 40, at 26.

42. Mahoney, *supra* note 37, at 1457.

sanctions by the exchanges now can simply move to rival trading venues with similar liquidity characteristics—and more congenial rules.

A third problem with Professor Mahoney's analysis is empirical in nature. Despite much research, there is no evidence of the proclivity for efficient rulemaking on the part of exchanges of the kind that Mahoney describes. The fact of the matter is that exchanges *collude* rather than *compete* when they promulgate new rules. As the *Special Study on Market Structure, Listing Standards and Corporate Governance* points out, "the SEC has adopted a practice of encouraging the exchanges 'voluntarily' to adopt given corporate governance listing standards and in the process has urged the exchanges, listed companies, and shareholders to reach consensus on those standards."⁴³ For example, during the 1990s the SEC urged that the exchanges adopt rules requiring that corporate audit committees be comprised of independent directors. This change began with the approval in March 1997 of a new NYSE rule requiring all listed domestic companies to establish and maintain audit committees independent from management and whose members were free from any relationship that would interfere with the exercise of their independent judgment. With the support and encouragement of the SEC, the NYSE and the Nasdaq "agreed to sponsor a 'blue ribbon panel' . . . to make recommendations on strengthening the role of audit committees in overseeing the corporate financial reporting process."⁴⁴ Within one year after the release of the panel's report, all of its recommendations were coordinately proposed as rules by the NYSE, the Nasdaq, and the AMEX, and subsequently approved en masse on December 21, 1999, by the SEC under the Commission's statutory authority pursuant to Exchange Act Section 19(b).⁴⁵

The same joint approach was followed by the SEC under both Chairmen Arthur Levitt and Harvey Pitt with respect to coordinating the Exchange's rulemaking regarding the issue of when shareholder approval is required for executive compensation plans involving the issuance of stock options. The SEC in 2000 and again in 2001 called for a collaborative resolution of this issue.⁴⁶

43. Comm. on Fed. Regulation of Sec. of Am. Bar Ass'n, *Special Study on Market Structure, Listing Standards and Corporate Governance*, 57 BUS. LAW. 1487, 1503 (2002) (publishing the findings of a study group consisting of Robert Todd Lang, Chair, and Brandon Becker, Roger Blanc, Peter Clapman, Roberta Karmel, John Liftin, Jonathan Macey, Hugh Makens, and John Olson).

44. Press Release, SEC, NYSE & NASD, SEC, NYSE and NASD Announce Blue Ribbon Panel To Improve Corporate Audit Committees (Sept. 28, 1998), <http://www.sec.gov/news/press/pressarchive/1998/98-96.txt>.

45. See Order Approving Proposed Rule Change by the New York Stock Exchange, Inc., Exchange Act Release No. 42,233, 64 Fed. Reg. 71,529 (Dec. 21, 1999); Order Approving Proposed Rule Change by the National Association of Securities Dealers, Inc., Exchange Act Release No. 42,231, 64 Fed. Reg. 71,523 (Dec. 21, 1999); Order Approving Proposed Rule Change by the American Stock Exchange LLC, Exchange Act Release No. 42,232, 64 Fed. Reg. 71,518 (Dec. 21, 1999).

46. Vicky Stamas, *Options-Disclosure Rule OK'd: SEC Requires Firms To Tell Shareholders More About Stock Offered to Workers in Compensation Plans*, L.A. TIMES,

The Chairman of the SEC went so far as to say that although the SEC's letter to the exchanges was worded as "a request, it was expected to be implemented. They should move with alacrity."⁴⁷

As a purely descriptive matter, the available evidence is inconsistent with the assertion that rival trading venues compete to produce corporate law rules. Rather, the accurate depiction of the competitive situation is that the SEC *coordinates* the regulatory standards of the exchanges and the Nasdaq in order to prevent competition among these trading venues from occurring at all.

One way of gauging the effectiveness of the organized exchanges in dealing with aberrant corporate conduct is to examine the relationship between exchange affiliation and corporate scandals. If, for example, listing on the NYSE serves as a successful mechanism for signaling, bonding, and otherwise "opting into" honest corporate reporting and good corporate governance, then firms listed on the NYSE should have a lower incidence of corporate scandals than other firms. However, according to a Forbes.com survey of corporate accounting scandals in 2002, nineteen of the firms involved in such scandals were listed on the NYSE, and only two were listed on Nasdaq.⁴⁸ While the Forbes data is not dispositive, in light of the sample size of 2800 NYSE firms and 3300 Nasdaq firms, the accounting scandal tallies do suggest a disproportionately greater number of such scandals on the NYSE than on other U.S. trading venues.⁴⁹ In other words, the exchange's regulatory oversight clearly does not preclude scandal, or even necessarily make it less likely.

This is not to say that exchanges *never* have the appropriate incentives to regulate their own activities. As with all firms, we can expect an exchange's own rules to be efficient when, and only when, the exchange's incentives are consistent with the promulgation of efficient rules. But self-regulation now poses massive agency-cost problems because exchanges are seeking to regulate members who are, in fact, competing firms rather than firms with whom the exchanges' interests are aligned with respect to most regulatory issues.

Evidence abounds that exchanges are failing to meet their regulatory

Dec. 20, 2001, at C4; Arthur Levitt, Chairman, SEC, Remarks Before the 2000 Annual Meeting of the Securities Industry Association (Nov. 9, 2000), *available at* <http://www.sec.gov/news/speech/spch420htm>.

47. Stamas, *supra* note 46.

48. Penelope Patsuris, *The Corporate Scandal Sheet*, FORBES, Aug. 26, 2002, *available at* <http://www.forbes.com/2002/07/25/accountingtracker.html>.

49. The differences between the NYSE and the Nasdaq rules regarding corporate governance are miniscule and cannot be said to account for observed differences in the incidence of corporate governance scandals. For example, the NYSE proposes a five-year "cooling-off" period before former employees of a listed company can become board members. The Nasdaq's proposed cooling-off period is only three years. But in important areas, such as directors' compensation and prohibitions on audit committees from receiving any payment other than for board services, the rules are identical. *See* Nasdaq Corporate, <http://www.nasdaq.com/services/insidenasdaq.stm>; NYSE Corporate Governance, <http://www.nyse.com/about/listed/1101074746736.html> (last visited Sept. 5, 2005).

mandates. For example, in 2000, the Justice Department and the SEC sanctioned the American Stock Exchange, the Philadelphia Stock Exchange, the Chicago Board of Options Exchange, and the Pacific Stock Exchange (which is owned by an ECN, ArcaEx) for not enforcing their own internal rules for the trading of options. The four exchanges agreed, without admitting or denying wrongdoing, to spend \$77 million on new surveillance technology and enforcement initiatives.⁵⁰ In 2003, the SEC investigated and disciplined the NYSE for failure to properly prevent trading in front of customer orders and other actions by exchange members that harm investors.⁵¹ In October 2003, the SEC Office of Compliance, Inspection, and Examinations wrote a confidential report that, according to the *Wall Street Journal*, concluded that self-regulation at the NYSE “does not adequately discipline or deter” securities law violations by exchange members.⁵² And in late 2004 the SEC was preparing enforcement actions against three other exchanges: the American Stock Exchange, the Philadelphia Stock Exchange, and Chicago’s National Stock Exchange. The SEC has

evidence that some of the dozens of firms that oversee the buying and selling of securities at these exchanges withheld valuable pricing information from the public or traded for their own accounts before filling public orders . . . [T]he firms allegedly took advantage of their knowledge of price trends to get better deals for themselves, shortchanging other investors.⁵³

On December 16, 2004, the *Wall Street Journal* reported that brokerage firm Knight Securities traded ahead of its customers for JDS Uniphase, a Nasdaq stock. Earlier in 2004 the NYSE censured Goldman Sachs and one of its former employees for trading ahead of customer orders and for allocating profitable trades to his own account and trades involving losses to client accounts.⁵⁴ The NYSE also censured Royal Bank of Canada’s RBC Dain Rauscher brokerage unit for entering proprietary orders for itself while it had client orders on its books that had not been filled.⁵⁵ And in August 2004, the NYSE announced that it had taken similar disciplinary actions against seven firms, including Credit Suisse First Boston, Josephthal & Co., and Ferris Baker Watts.⁵⁶

50. Floyd Norris, *Option Boards Are Censured by the S.E.C.*, N.Y. TIMES, Sept. 12, 2000, at C1.

51. Landon Thomas, Jr., *S.E.C. Steps in as Fines Are Planned on 5 Firms*, N.Y. TIMES, Oct. 17, 2003, at C1.

52. Susanne Craig et al., *Tense Times for Big Board and Specialists*, WALL ST. J., Oct. 20, 2003, at C1.

53. Kate Kelly, *SEC Plans To Punish Exchanges*, WALL ST. J., Oct. 8, 2004, at C1.

54. Ann Davis, *Client Comes First? On Wall Street, It Isn't Always So*, WALL ST. J., Dec. 16, 2004, at A1.

55. *Id.*

56. Press Release, NYSE, NYSE Announces Disciplinary Actions Against Seven Member Firms and Seven Individuals (Aug. 27, 2003), <http://www.nyse.com/Frameset.html?displayPage=/press/1061982038925.html>.

These are clear examples of the point we are making: self-regulation in today's environment is systemically dysfunctional. The SEC is pressuring the exchanges to engage in self-regulation. The exchanges are required to police trading on their floors aggressively—which they do not do, because they are concerned that if they are aggressive enough to satisfy the SEC, trading will migrate to other venues.

This phenomenon exhibits some of the characteristics of a “race to the bottom” or a “competition in laxity” in which competitive conditions provide incentives for exchanges to refrain from enforcing their own investor-protection rules for fear of losing market share.⁵⁷ This, in turn, raises the question of why there should be a race to the bottom in this context, when the jurisdictional competition in corporate charters does not produce this sort of pathology.⁵⁸

One reason is that the exchanges' rules are far less transparent than the states' corporate law rules. State corporate law rules are widely known, and potential violations are very easy to observe. Significant state law jurisprudence involves issues that are highly visible and salient, such as executive compensation,⁵⁹ the proper standard of conduct for directors considering outside merger proposals,⁶⁰ and the evaluation of “poison pill” defensive

57. There is an ancient debate among corporate law scholars about whether the jurisdictional competition for corporate charters that exists among the states results in a socially desirable “race to the top” or an undesirable “race to the bottom.” See Renee M. Jones, *Rethinking Corporate Federalism in the Era of Corporate Reform*, 29 J. CORP. L. 625, 629-30 (2004). Some scholars erroneously claim, contrary to the best empirical and theoretical evidence as well as to the observed behavior of the Delaware judiciary, that no competition exists at all. The basis for this assertion appears to be that it is hard to observe other states competing and that, in any case, Delaware seems to be winning this “nonexistent” competition. See Lucian Ayre Bebchuk & Assaf Hamdani, *Vigorous Race or Leisurely Walk: Reconsidering the Competition over Corporate Charters*, 112 YALE L.J. 553 (2002); Lucian Bebchuk et al., *Does the Evidence Favor State Competition in Corporate Law?*, 90 CAL. L. REV. 1775 (2002); Marcel Kahan & Ehud Kamar, *The Myth of State Competition in Corporate Law*, 55 STAN. L. REV. 679 (2002). However, history shows that, while there are significant first-mover advantages, Delaware's ability to regulate is constrained by potential entry by other states and by the federal government, which will quickly fill any undesirable gaps in Delaware's corporate law jurisprudence. See Roberta Romano, *Law as a Product: Some Pieces of the Incorporation Puzzle*, 1 J.L. ECON. & ORG. 225 (1985). Clearly, corporations don't simply select Delaware at random as their overwhelming choice of where to incorporate. Similarly, were Delaware to miscalculate the demand for its services, as New Jersey did when it held a similar position at the turn of the last century, Delaware would find itself displaced as winner of the jurisdictional competition for corporate charters just as New Jersey did.

58. See FRANK H. EASTERBROOK & DANIEL R. FISCHER, *THE ECONOMIC STRUCTURE OF CORPORATE LAW* 212-27 (1991); ROBERTA ROMANO, *THE GENIUS OF AMERICAN CORPORATE LAW* 1-51 (1993). See generally Romano, *supra* note 57; Ralph K. Winter, Jr., *State Law, Shareholder Protection, and the Theory of the Corporation*, 6 J. LEGAL STUD. 251 (1977).

59. See *In re The Walt Disney Co. Derivative Litig.*, 825 A.2d 275 (Del. Ch. 2003).

60. See *Smith v. Van Gorkom*, 488 A.2d 858 (Del. 1985).

devices.⁶¹ By contrast, an exchange's regulatory issues involve enforcement by the exchange itself of highly technical and rather obscure rules. Significantly, no state, including Delaware, spends any resources whatsoever in enforcing its corporate law rules. The rules are enforced by private rights of action financed by plaintiffs' class action law firms. In fact, most investors are wholly unaware of the particular venue in which their orders are executed when they place an order to trade securities with a broker-dealer firm, and there is no private bar organized to monitor floor trading the way the private class-action bar monitors corporate behavior. This lack of transparency reduces the ability of outside market participants to monitor exchange transactions, leading inexorably to an increase in agency costs.

Another reason why there is less competition among exchanges than among states is that the federal government plays a critical role in coordinating the regulations promulgated by the exchanges. This situation dramatically reduces the extent to which it even is possible for the exchanges to compete in the formulation of legal rules, as state jurisdictions are able to do.

The resulting problem is that the exchanges no longer have the proper incentives to engage in self-regulation with respect to many issues. These incentives have been replaced by the need to survive by attracting order flow from rival trading venues.

III. WHO SHOULD REGULATE WHAT? COMPETITION, COLLUSION, AND CAPTURE IN REGULATORY STRUCTURES

The move to for-profit status is a natural economic consequence of the evolution of securities trading from the firm/exchange level to the market level. As the locales for securities trading have evolved from exchanges to venues, exchanges simultaneously have changed from constituting the entire market for securities to being "merely" one type of provider among several sources of liquidity for securities. Yet, to the extent that exchanges are engaged in self-regulation, they can promulgate rules that affect their competitors. Competitors who have the ability to promulgate rules that harm their competitors inevitably will have incentives to develop new rules and enforce existing rules that provide competitive advantages for themselves and impose asymmetrical costs on their competitors. These incentives become particularly strong as the market power of the regulator-competitor wanes, and it sees profit margins decline and competitive pressure surge.

Because of the existence of these perverse incentives, self-regulation is far from a panacea from a policy perspective. Rather, self-regulation must be closely confined to its appropriate context. Specifically, when and only when an exchange internalizes both the costs and the benefits of the rules it promulgates should it be entrusted with the task of self-regulation. When the

61. *See* Unocal Corp. v. Mesa Petroleum Co., 493 A.2d 946 (Del. 1985).

exchange constituted the entire market, this condition was at least approximately met. Now, however, there is not a congruity of interests: rules that benefit the exchange as a firm may well be to the detriment of the market. Consequently, while exchanges may actually be more adept at setting internal regulations now than they were in the past, the exchanges will fail miserably at setting regulations at the market level. It is not economically sensible to expect a profit-seeking exchange to act any other way. Regulators, not exchanges, are more likely to make efficient decisions over issues that affect the entire market.

We are aware, of course, that arguments that government intervention invariably can solve externality or other market failure problems all suffer from what Harold Demsetz characterized as the “nirvana fallacy.”⁶² The nirvana fallacy is the shorthand description for the flawed thought process that contrasts any imperfect market with an idealized, perfect market and then assumes that government intervention can solve the market imperfection, thereby enabling society to achieve a state of nirvana.⁶³ This assumption is not only false, but also dangerous; often government intervention generates a regulatory “cure” that is far worse than the preexisting market failure “disease.” Put slightly differently, the nirvana fallacy assumes that government is omniscient and benevolent and that all of its interventions generate welfare-improving results. In fact, government action often is misguided, subject to massive interest-group pressures, and risks making the problem worse. It is possible that this is the case, even today, with respect to the promulgation of government-created exchange regulation. We fully recognize that just because the exchanges do not necessarily generate optimal regulation does not necessarily mean that the SEC will be better at formulating regulations.

The policy decision about how to allocate regulatory authority should be made on the basis of which institution—the exchanges in their self-regulatory capacity, or a federal bureaucracy such as the SEC—has the best incentives to regulate in the public interest. In the context we consider, however, there is a wrinkle: when exchanges engage in self-regulation, they generate and enforce rules that directly affect their own commercial interests. By contrast, while we fully recognize that the SEC is subject to interest-group pressures of varying degrees, including the possibility of outright capture,⁶⁴ the Commission does not face the same acute conflicts of interest when it regulates markets that the exchanges face.

For example, in late 2004, the SEC proposed new rules that would require stock exchanges and other market SROs to maintain a separation between their regulatory functions and their market operations and other commercial

62. Harold Demsetz, *Information and Efficiency: Another Viewpoint*, 12 J.L. & ECON. 1, 1-2 (1969).

63. *Id.*

64. Jonathan R. Macey, *Administrative Agency Obsolescence and Interest Group Formation: A Case Study of the SEC at Sixty*, 15 CARDOZO L. REV. 909, 913-14, 922-23 (1994).

November 2005]

FROM MARKETS TO VENUES

583

interests.⁶⁵ One specific proposal would require that exchanges use the funds received from regulatory fines, fees, and penalties for regulatory purposes only. This seems to be a sensible rule—the SEC does not keep the fines that it levies; it turns the money over to the Treasury. Absent these sorts of rules, the exchanges would have incentives to levy excessive fines against politically weak members for the exchange's private benefit.

As noted above, every time an exchange issues a rule that affects its competitors, it has a conflict of interest. By contrast, when the SEC promulgates a rule that affects all market participants, it does not benefit, at least directly, from the redistributive consequences of its rules. Moreover, when the SEC proposes to regulate or discipline a particular market participant, all interested parties have equal rights to notice of the proposed regulation or disciplinary proceeding and to comment and otherwise participate in the rulemaking process. This is not the case when private firms regulate internally; nor should it be. However, private firms' ability to regulate should be confined to issues related to the private ordering of the firm—that is, to those issues over which the exchange internalizes the costs and benefits resulting from the decisions it is making.

Thus, we believe that the regulation of U.S. exchanges is currently suboptimal because the regulatory scheme fails to recognize this discrepancy. For some issues, such as the regulation of the capacity constraints of private trading systems and rules regarding insider trading and the manipulation of share prices, regulators are overly involved. For other issues, such as listing and delisting decisions or the monitoring of trading practices, regulators are either insufficiently involved or they are involved in ways that are inappropriately opaque. We illustrate these points with specific examples of the problems that arise when firms attempt to regulate the markets in which they and their competitors operate. We also find that exchanges should be free to regulate their own internal governance and business affairs in any way they see fit.

A. *Listing and Delisting Decisions*

Few issues better reflect this divergence of interests than the listing and delisting of securities. Exchanges have traditionally used listing standards to support their "signaling role" of attesting to the quality of firms trading on the exchange. In return for this endorsement, listing firms pay both initial listing fees and continuing listing fees. These fees have been an important source of revenue for stock markets, particularly in the United States, where listing fees have often been upwards of 30% of the NYSE's overall revenues.

When the venue on which firms listed was also the exclusive venue on which such shares traded, listing fees could be justified as representing

65. See Fair Administration and Governance of Self-Regulatory Organizations, Exchange Act Release No. 50,699, 69 Fed. Reg. 71,126 (Dec. 8, 2004).

compensation for the exchange's ongoing regulation of trading. As we have observed earlier, the listing-trading connection has broken down, and trading currently takes place on whichever venue provides the greatest liquidity.⁶⁶ There is increased competition for listings.⁶⁷ Listing fees now represent a fee for access to certain U.S. markets, a sort of monopoly rent, as it were, to the few exchanges and venues empowered to list firms.⁶⁸ From a purely economic perspective, since exchanges can list firms whose stocks those exchanges may not actually end up trading, exchanges have strong incentives to list more firms than would be optimal if listing and trading were linked. Concerns over such perverse incentives were recently raised in Hong Kong, where a government-appointed commission pushed for the transfer of the listing function to the regulator from the exchange, arguing that "[a]s a listed company motivated by profitability, the HKEx has a clear interest in listing as many companies as possible since listing fees represent a significant portion of revenues (18% in 2002), and there is a disincentive to allocate resources to enforcement which is costly and produces no revenues."⁶⁹

A similar difficulty relates to the issue of who should determine delisting standards. Delisting presents an even greater dilemma for a stock market, as it destroys the market's listing-fee income and curtails the exchange's opportunity to make revenues from trading the stock. Not surprisingly, exchanges have found delisting increasingly unpalatable, as evidenced by Nasdaq's reticence in 2001 to delist the more than 10% of stocks failing its listing requirements.⁷⁰ Indeed, in a competitive world where stock markets make money from trading securities, delisting stocks seems a particularly perverse action for an exchange—why remove the very product generating your revenue?

For the security market as a whole, however, listing and delisting standards play an important role by delineating the quality of firms allowed to access a country's capital markets. Restricting access or denying trading privileges is thus a public good in that it enhances the overall quality of the market. Entrusting this decision to self-regulating exchanges is suboptimal because, as with any public good, the social costs exceed the private costs. As we have argued above, self-regulation cannot succeed when this is the case.

66. Macey & O'Hara, *supra* note 14, at 24.

67. See generally Thierry Foucault & Christine A. Parlour, *Competition for Listings*, 35 RAND J. ECON. 329 (2004).

68. This profit potential may explain the decision of newly publicly listed ArcaEx to begin listing stocks.

69. See Joel Baglole, *Lowering the Bar*, FAR E. ECON. REV., Apr. 15, 2004, at 38.

70. For an analysis of the delisting process, see Jonathan Macey, Maureen O'Hara, & David Pompilio, *Down and Out in the Stock Market: The Law and Economics of the Delisting Process* (2005) (unpublished manuscript, on file with authors).

November 2005]

FROM MARKETS TO VENUES

585

B. Oversight of Exchange Trading Practices

Another area in which the costs and benefits of self-regulation may diverge concerns trading practices. Traditionally, exchanges have been entrusted to police themselves with respect to ensuring that trading takes place fairly and honestly. The difficulty is that trading practices which benefit traders may do so at the expense of exchange members. Thus, floor brokers who trade ahead of customer orders, or specialists who step in front of existing orders, profit from doing so, and customers correspondingly lose out. It is the zero-sum nature of trading that means that one person's cost is another person's benefit.

The standard argument that one hears in support of self-regulation is that it is in the rational self-interest of individual members of the self-regulatory body to police the profit-taking activity of those members who are in a position to abuse the organization's market power. Yet, the litany of trading practice failures by self-regulating exchanges is long, suggesting that even the cooperative structure of exchanges has not been sufficient to overcome these rent-seeking tendencies. As exchanges convert to become profit-seeking firms, however, these problems become even more apparent: now the gains of the few turn into the profits of the corporation. How can a corporate entity that captures all the gains from such behavior be expected to prohibit it (or, more to the point, actively monitor to prevent it)?

More subtle difficulties of the self-regulation of trading practices can be seen in the massive controversy surrounding the so-called trade-through rule. Trade-through rules bar traders from electing to trade at lower prices in faster electronic markets when there is a better quote in the slower exchange market.⁷¹ Until recently, the trade-through rule was promulgated pursuant to the Intermarket Trading System (ITS) Plan,⁷² and it dictated that the stock exchanges, which were the markets participating in the plan,⁷³ could not trade

71. *Investor-Protection Principles Should Drive Structure of National Market System*, EXCHANGE (NYSE, Inc., New York, N.Y.), July 2004, at 1-2, <http://www.nyse.com/pdfs/xnlv11n07.pdf>.

72. Section 11A(a)(2) was adopted by the Securities Acts Amendments of 1975, Pub. L. No. 94-29, 89 Stat. 97 (1975).

73. Current signatories to the ITS Plan include the American Stock Exchange LLC (Amex), Boston Stock Exchange, Inc. (BSE), Chicago Board Options Exchange, Inc. (CBOE), Chicago Stock Exchange (CHX), Cincinnati Stock Exchange (CSE), Nasdaq Stock Market, Inc. (Nasdaq), the New York Stock Exchange, Inc. (NYSE), Pacific Exchange, Inc. (PCX), and the Philadelphia Stock Exchange, Inc. (Phlx). However, on Monday, August 8, 2005, Nasdaq announced its intention to withdraw from the Intermarket Trading System because it viewed the decades-old linkage system as technologically inferior to the system it is developing on its own with technology acquired in its merger with Brut, LLC, an electronic communication network. See Press Release, The Nasdaq Stock Market, Inc., Nasdaq Announces Intention To Withdraw from Its Plan (Aug. 8, 2005), http://www.nasdaq.com/newsroom/news/pr2005/ne_section05_078.stm.

One advantage of private market systems, such as the one envisioned by Nasdaq, is that both exchanges and nonexchange electronic trading venues have access to the private

at a price inferior to a price displayed in another market. Pursuant to this now-displaced incarnation of the trade-through rule, the market receiving an order for securities was required either to match a better price available in another market or route the order to the other market for execution. This meant that markets receiving an order to buy or sell a stock could compete only on the basis of price, not on the basis of speed of order execution (at an inferior price). Thus the trade-through rule is the functional equivalent of requiring convenience stores such as 7-Eleven to match the prices of large "box" store chains like Wal-Mart or else to route their customers' orders either directly to Wal-Mart or to another competing firm that will match Wal-Mart's price.

Recently, the exchanges succeeded in regulating (reducing) competition for order flow against other trading venues when they lobbied successfully for the continuation and expansion of the trade-through rules from the organized exchanges to the over-the-counter markets.⁷⁴

The trade-through rule, also known as the "best price rule," originally was intended to deal with an agency-cost problem. This problem manifests itself on the buy side when a specialist fills a buy order at a price above an existing offered price or a sell order at a price below an existing price, thus making a risk-free profit by buying at the lower preexisting price to fill the bid or by selling at the higher, preexisting offer price to fill the order.

The best price rule prevents specialists and other market makers from taking advantage of different prices. Under the trade-through rule, trades must be executed at the best price, which is defined as the current best price in the

systems. This advantage has become even more significant in the wake of the adoption of Regulation NMS, because this regulation extended the reach of the trade-through rules to all market participants. Thus, prior to Regulation NMS, orders executed on systems other than the ITS were not subject to the protections of the rule, whereas now they are. This situation, it is thought, will make it more desirable for some customers to submit orders on venues that do not participate in the ITS Plan. Steven Marlin, *Nasdaq To Withdraw from Intermarket Trading System*, INFO. WEEK, Aug. 8, 2005, <http://www.informationweek.com/showArticle.jhtml?articleID=167600587>.

74. On April 6, 2005, the SEC passed Regulation NMS, a 532-page regulation that contains four interrelated proposals designed to change the regulatory structure of the U.S. equity markets. Regulation NMS was originally proposed for public comment in February 2004. See Proposed Rules, Exchange Act Release No. 34-49325 (Feb. 26, 2004), available at <http://www.sec.gov/rules/proposed/34-49325.htm>. The Commission extended the comment period and issued a supplemental release in May 2004, see Extension of Comment Period, Exchange Act Release No. 34-49749 (May 20, 2004), available at <http://www.sec.gov/rules/proposed/34-49749.htm>, and re-proposed a revised Regulation NMS in December 2004, see Proposed Rules, Exchange Act Release No. 34-50870 (Dec. 16, 2004), available at <http://www.sec.gov/rules/proposed/34-50870.htm>. The substantive topics addressed by Regulation NMS are: (1) order protection; (2) intermarket access; (3) sub-penny pricing; and (4) market data. In addition, Regulation NMS updates the existing Exchange Act rules governing the national market system, and consolidates them into a single regulation. Finally, two amendments were made to the joint industry plans for disseminating market information. See 17 C.F.R. §§ 242.600-.612 (2005); see also Exchange Act Release No. 34-51808, 2005 WL 1364545 (June 9, 2005); 70 Fed. Reg. 37,496 (June 29, 2005) (Regulation NMS Adopting Release).

market regardless of the order size.⁷⁵ For example, if a customer places a market price sell order for 50,000 shares and there is a preexisting 100-share bid order for \$100.50 and a 50,000 share bid order for \$100.45, the market maker is required to wait until he can fill the 50,000-share order at the higher quoted bid of \$100.50. The specialist or market maker cannot fill the market sell order with the \$100.45 standing bid, even though that bid might disappear shortly. They may not do so even if the customer with the 50,000-share block trade would *prefer* to execute the entire order immediately, foregoing the \$0.05 offered on the rival venue in order to obtain a faster execution.

In fact, under the current trade-through rule at the NYSE, the trade cannot be executed at all until the prior, superior bid of \$100.50 is filled or withdrawn. If the 100-share \$100.50 bid disappears first, the 50,000-share market order can be executed at the \$100.45 bid, since this bid now represents the highest price at the time. If, in the meantime, the market drops, say to a \$100.30 bid, then the trade will be executed at \$100.30.

Many block traders would prefer to execute their trades automatically at \$100.45, the best price for the entire block, rather than wait, but they do not have that option. The SEC initially proposed, but ultimately declined to enact, rules that would have allowed traders to choose "speed of execution" over "best price."⁷⁶ The proposed rule would have limited the scope of the trade-through rule in two important respects. First, it would have enabled market participants who preferred to maximize speed of execution to "opt-out" of the trade-through rule as long as the trader was able to "make an informed decision" when selecting speed of execution over best price.⁷⁷ Second, in automated markets, such as ECNs, where an order can be instantly filled by a computer system, the trade-through rule would not apply within a certain de minimis range of price discrepancy between the order price and the best bid or offered price in the system. This range would be from one to five cents per share, based on the total share price to be "trade-through-able."⁷⁸

Turning to the previous example, an automated order to sell 50,000 shares could be executed at \$100.45 per share, despite the existence of a better displayed price, as long as the better price is not more than \$0.05 higher than the price at which the larger order is to be executed. The NYSE has vigorously opposed relaxing the trade-through rule, arguing that trades should have to go to the market posting the best price, which traditionally has been the NYSE.

75. Information on the trade-through rule can be found in Part I of Final Rule: Repeal of the Trade-Through Disclosure Rules for Options, Exchange Act Release No. 34-47013 (Dec. 17, 2002) [hereinafter SEC Final Rule], available at <http://www.sec.gov/rules/final/34-47013.htm>.

76. For an analysis of the proposed changes, see Maureen O'Hara, *Searching for a New Center: U.S. Securities Markets in Transition*, FED. RESERVE BANK OF ATLANTA, ECON. REV., Fourth Quarter 2004, at 37.

77. SEC Final Rule, *supra* note 75.

78. *Id.*

The obvious problem with this perspective is that it reduces competition—as evidenced by the NYSE's beneficial position under the current form of the rule.

The trade-through rule provides an important example of our point that technological change has led to a dramatic increase in the level of heterogeneity with respect to the range of self-interest among the participants to exchange transactions. The trade-through controversy also illustrates how technology has led to less concern about agency costs and more concern about transaction costs. Following Williamson,⁷⁹ this change suggests that market forces currently favor the organization of trading across markets rather than within firms. Equally important, the controversy over the trade-through rule suggests that no single trading platform is likely to dominate this market completely because some clienteles prefer trading platforms that give precedence to small order execution at market prices, while other clienteles prefer trading platforms that give precedence to maintaining the anonymity of market participants, and still others prefer trading platforms that permit large orders at slightly inferior prices to be executed ahead of smaller orders at slightly superior prices.

The problem with permitting the NYSE and the SEC to enforce the ITS trade-through rules is that these rules prevent all exchanges and ECNs from instituting the trading rules they think will maximize their own share of trading. In other words, the regulation encourages competition along the vector of price, which is commendable, but it discourages competition on the vector of speed, which is unfortunate because it will retard innovation and impair rival trading venues from engaging in competition in the way of product differentiation and is therefore likely to be inefficient.⁸⁰

C. Insider Trading and Share-Price Manipulation

The previous two examples demonstrated areas in which self-regulation fails due to incentive problems on the part of the self-regulating exchange. There are areas, however, in which the new incentives of exchanges actually enhance the efficacy of self-regulation. In particular, the for-profit exchange will generate efficient legal rules with respect to decisions that internalize the associated costs and benefits within the firm. Such areas include manipulation and insider trading.

Stock market manipulation and insider trading distort share prices in very different ways. Stock market manipulators inefficiently affect prices by making inaccurate or misleading statements or engaging in sham transactions that distort share prices. Manipulators then profit by transacting in securities before

79. See *supra* Part I.

80. See Dissent of Commissioners Cynthia A. Glassman and Paul S. Atkins to the Adoption of Regulation NMS, <http://www.sec.gov/rules/final/34-51808-dissent.pdf> (last visited Oct. 22, 2005); Letter from Edward J. Nicoll, CEO, Instinet Group, Inc., to Jonathan G. Katz, Sec'y, SEC, Reproposal of Regulation NMS, Securities Exchange Act Release No. 50,870 (File No. S7-10-04) (Jan. 26, 2005).

November 2005]

FROM MARKETS TO VENUES

589

the prices adjust once again to the undistorted levels. Insider traders, by contrast, profit by trading in securities on the basis of accurate, nonpublic information that reasonably can be expected to have an impact on share prices once the information is revealed.

Despite these important analytical differences, from the standpoint of the exchange's incentives to regulate, insider trading and manipulation have an important characteristic in common: they increase the risks and the transaction costs associated with trading.⁸¹ The more that one transacts in the securities subject to manipulation and insider trading, the costlier trading becomes. Since market makers and exchange specialists engage in more transactions than most other traders, they are the groups with the strongest incentives to regulate manipulation and insider trading.

Market makers and specialists hold themselves out as being willing to buy or sell continuously in order to provide liquidity to the market. Exchange specialists in particular are under an affirmative obligation to buy from, or sell to, any trader whose order cannot be offset against other orders arriving simultaneously. Market makers' and specialists' compensation comes from charging a "bid-ask spread" that must be narrow enough to attract business but wide enough to offset the costs associated with continuous trading and holding occasional inventories of securities to offset temporary order imbalances. Manipulators and insider traders, however, will sell securities to market makers and specialists when only they know that the securities price will go down in the near future or, conversely, buy from them when they know the price will go up. Thus, while specialists systematically (though not always) earn the bid-ask spread transacting with outsiders, they systematically lose when transacting with insiders and manipulators. Consequently, market makers and specialists insist on larger bid-ask spreads as manipulation and insider trading increase as a percentage of overall trading volume.

Thus, manipulation and insider trading increase the transaction costs of trading to specialists, market makers, and investors by widening the bid-ask spread that is a transaction cost of dealing in securities. Nevertheless, the SEC has barely regulated insider trading. For example, since June 30, 2003, the SEC has required all companies that maintain a corporate website to provide public access to corporate filings within one day of posting. "[C]ompliance presents a potentially time-consuming and expensive challenge for companies hoping to accomplish this task in-house."⁸²

Putting aside the obvious point that the information contained in corporate filings of public companies is incorporated in the share prices of firms virtually

81. See JONATHAN R. MACEY, *INSIDER TRADING: ECONOMICS, POLITICS, AND POLICY* (1991); H. Nejat Seyhun, *Insiders' Profits, Costs of Trading, and Market Efficiency*, 16 J. FIN. ECON. 189 (1986).

82. *Quote Media Launches Corporate Solution for New SEC Regulations*, BUS. WIRE, June 27, 2003, http://www.findarticles.com/p/articles/mi_m0EIN/is_2003_June_27/ai_104433806.

instantaneously, and certainly before a full day has passed after the information is posted, privatized exchanges have incentives to promulgate rules that regulate these and other sorts of disclosures in a timely way. Indeed, one might expect that these incentives to regulate are so strong that much of the current SEC regulatory structure surrounding these issues can be replaced by rules implemented at the trading system level.⁸³

D. Oversight of Exchange Trading Capacity

Another area in which the private interests of a corporate exchange will promote efficient regulation relates to the quality of the technology that determines operational efficiency of trade processing and trading capacity. Better, more reliable systems that can handle large, unexpected trading volumes are costly relative to systems that are inflexible, unreliable, and can handle only low trading volumes. At certain times, particularly when there is a crisis in the market or a major news event, certain trading venues suffer technical failures and are forced to temporarily suspend trading. Similarly, exchanges sometimes voluntarily suspend trading when volatility becomes very high. At other times, regulators require the suspension of trading for various reasons.⁸⁴

Often when such suspensions happen, there are calls for regulation either to reduce market volatility or to ensure trading continuity during times of national emergency, such as a terrorist attack. For example, after the 1987 stock market crash, "questions about whether the market is (or should be) adequately protected by circuit breakers" were often raised.⁸⁵ Similarly, following the terrorist attacks on the World Trade Center and the Pentagon in September 2001, the SEC attempted to impose uniform rules on the securities industry by issuing a "Policy Statement" containing basic principles to be followed by trading venues, including exchanges and ECNs, in their business continuity planning.⁸⁶

83. For economic analyses of insider trading with arguments consistent with the general views that the SEC is not the most efficient producer of insider trading regulations, see Dennis W. Carlton & Daniel R. Fischel, *The Regulation of Insider Trading*, 35 STAN. L. REV. 857 (1983); David R. Haddock & Jonathan R. Macey, *A Coasian Model of Insider Trading*, 80 NW. U. L. REV. 1449 (1986); David D. Haddock & Jonathan R. Macey, *Regulation on Demand: A Private Interest Model, with an Application to Insider Trading Regulation*, 30 J.L. & ECON. 311 (1987).

84. See U.S. Sec. & Exch. Comm'n, Trading Halts and Delays, <http://www.sec.gov/answers/tradinghalt.htm> (last visited Nov. 12, 2005); U.S. Sec. & Exch. Comm'n, Trading Suspensions! When the SEC Suspends Trading in a Stock, <http://www.sec.gov/answers/tradingsuspension.htm> (last visited Nov. 12, 2005). The NYSE has also promulgated rules. See NYSE, Circuit Breakers and Trading Collars, http://www.nyse.com/Frameset.html?displayPage=/press/circuit_breakers.html (last visited Nov. 12, 2005).

85. See Lawrence E. Harris, *Circuit Breakers and Program Trading Limits: The Lessons Learned*, in BROOKINGS-WHARTON PAPERS ON FINANCIAL SERVICES: 1998, at 17 (Robert E. Litan & Anthony M. Santomero eds., 1998).

86. Business Continuity Planning for Trading Markets, Exchange Act Release No.

But there is no reason the exchanges cannot promulgate their own rules regarding “business continuity planning,” since the benefits and costs of such rules are fully internalized by exchanges operating in competitive markets. For example, after the dramatic market declines in October 1987 and October 1989, the NYSE instituted several tests, reflected in NYSE Rules 80A and 80B, to stop trading automatically (so-called “circuit breaker” rules) for the ostensible purposes of reducing market volatility and promoting investor confidence.⁸⁷

Rule 80A contains an “index arbitrage tick test” imposing a collar on trading activity established at 2% of the average closing value of the Dow Jones Industrial Average (DJIA) (rounded down to the nearest ten points) for the last month of the previous calendar quarter. The collar is removed when the DJIA moves back to within 1% (also rounded down to nearest ten points) of its value at the time of the market’s close on the previous day (also rounded down to nearest ten points).⁸⁸

Rule 80B imposes halts on trading activity on the NYSE when there is extraordinary market volatility. The trigger levels for a marketwide trading halt are set at 10%, 20%, and 30% of the DJIA, calculated at the beginning of each calendar quarter, using the average closing value of the DJIA for the prior month, which establishes specific point values for the quarter. The halt for a 10% decline is one hour if the decline in the DJIA occurs before 2:00 P.M. and thirty minutes if the decline occurs between 2 P.M. and 2:30 P.M., with no trading halt if the 10% decline occurs after 2:30 P.M. The halt for a 20% decline is two hours if the decline occurs before 1 P.M., one hour if it occurs between 1 P.M. and 2 P.M., and for the rest of the trading day when the decline occurs after 2 P.M. For 30% declines, trading is halted for the remainder of the day, regardless of when the decline occurs.⁸⁹

Under our analysis, additional government regulation in this area is unnecessary for two reasons. First, stock exchanges and ECNs fully internalize the costs and the benefits associated with the rules they have concerning trading halts and continuity of trading during times of crisis. Because their basic product is liquidity, exchanges and ECNs have strong incentives to remain open, and to provide customers with the appropriate levels of trading capacity and continuity, for a very simple reason: they cannot make money when they are not trading. Thus, in a world of privatized stock exchanges whose owners’

48,545, 68 Fed. Reg. 56,656 (Oct. 1, 2003).

87. See NYSE, Circuit Breakers and Trading Collars, *supra* note 84.

88. *Id.* According to the NYSE:

Rule 80A was triggered 23 times on 22 days in 1990; 20 times in 1991; 16 times in 1992; 9 times in 1993; 30 times on 28 days in 1994; 29 times on 28 days in 1995; 119 times on 101 days in 1996; 303 times on 219 days in 1997; 366 times on 227 days in 1998; 79 times on 60 days (starting February 16th; 31 times in 31 days) in 1999; 52 times on 50 days in 2000; 50 times on 47 days in 2001; 78 times on 71 days in 2002; 28 times in 2003; and zero times in 2004. Rule 80A has been widely credited for helping to reduce market volatility.

Id.

89. *Id.*

incentive is to maximize profit, self-regulation should generate efficient rules regarding trading halts and the optimal level of investment in redundant trading systems. Second, government regulation in this area has led to, and will continue to lead to, rent-seeking activities by market participants. In particular, because of the high fixed costs of installing backup trading systems and training redundant trading personnel, regulation to require firms to have such costly systems in place may constitute a significant barrier to entry for new firms. For example, after the SEC issued its Policy Statement, Bloomberg, a large competitor, issued comments urging the SEC to:

1. Mak[e] listed markets more secure by improving access for electronic systems [sic] and creating the same redundancy and geographical dispersion that currently exist for markets in Nasdaq securities.
2. Designat[e] a single decision maker (possibly the Commission itself) as the central point which, in the event of a major disruption of the securities markets, would announce to the entire marketplace which exchanges/markets would be ready to resume trading.
3. Requir[e] broker-dealers to identify to the Commission their back-up facilities and to carry out and certify pre-trade-thorough-settlement testing of those facilities.⁹⁰

Similarly, in the year following the 1987 stock market crash, the NYSE, the American Stock Exchange, the National Association of Securities Dealers, and a variety of regional exchanges, all adopted rules regulating trading halts.⁹¹ These rules, in their original incarnation, would have halted trading for one hour in all stocks whenever the DJIA fell by 250 points, followed by an additional two-hour halt if the DJIA fell another 150 points. These rules had to be readjusted as the market rose, particularly in the mid-1990s when the 250-point increase represented a mere 4% change in prices. Now trading halts are regularly readjusted by the exchanges.⁹²

Appropriately, in our view, the SEC does not halt trading in securities when there are order imbalances or in anticipation of pending news. We would argue that privatized exchanges and trading venues have strong competitive incentives to set trading halts at efficient levels, because these competing trading forums internalize the costs associated with promulgating inefficient rules and internalize the benefits when they promulgate efficient rules.

90. Letter from Bloomberg Tradebook LLC, to U.S. Sec. & Exch. Comm'n, Commission File No. S7-17-03 (Nov. 7, 2003), <http://www.sec.gov/rules/policy/s71703/bloomberg110703.htm>.

91. Harris, *supra* note 85, at 19.

92. As of October 2004, with the DJIA at around 10,000, a 1000-point (10%) drop in the DJIA before 2 P.M. will halt trading on the NYSE for one hour; for thirty minutes if between 2 P.M. and 2:30 P.M.; and have no effect if at 2:30 P.M. or later. A 2050-point drop in the DJIA before 1 P.M. will halt trading for two hours; for one hour if between 1 P.M. and 2 P.M.; and for the remainder of the day if at 2 P.M. or later. A 3050-point decline will halt trading for the remainder of the day regardless of when the fall in prices takes place.

IV. ALTERNATIVE REGULATORY MODELS—GLOBAL EVIDENCE

The previous Parts have outlined how changes in the economic environment have forced exchanges to change both their form and function. These changes, in turn, suggest that the current U.S. system of self-regulation may be ill-suited to regulating exchanges, particularly as exchanges convert from member-owned cooperatives into profit-seeking, publicly listed firms. Against this backdrop, we have argued that a different regulatory environment is called for: one that explicitly recognizes the different incentives now present in exchange structure. We have also argued for a new, expanded role for the SEC that involves both more direct oversight of specific market functions and the supplanting of exchanges' ability to promulgate rules that affect their competitors.

What is not clear is whether implementing this new regulatory approach requires a specific regulatory framework, or whether there are a multitude of regulatory strategies that will accomplish the same legislative objective. Perhaps not surprisingly, the question of how to regulate securities trading is a global issue, reflecting the fact that markets worldwide are facing the same economic forces. However, many foreign markets have had to adapt more quickly, and change more dramatically, than have the U.S. exchanges, and this has been particularly true with respect to corporate ownership of exchanges. Consequently, a number of countries have already adopted alternative regulatory structures, and these global examples provide important evidence regarding alternative structures for market regulation.

By examining the incredibly rich heterogeneity among the governance systems that regulate trading on exchanges worldwide, we demonstrate that there is no "corner solution" or one-size-fits-all remedy to the question of how to best organize the regulatory framework in which stock exchanges and other trading venues operate. As discussed by Maureen O'Hara, securities regulation worldwide now exhibits a wide array of alternatives, ranging from direct government supervision of all aspects of the trading process to more standard self-regulation.⁹³ Along this continuum, however, there are large variations, including a number of hybrid models in which exchanges and government regulators take responsibility for specific functional regulation. Table 1 sets out the regulatory framework currently used for the London Stock Exchange, the Toronto Stock Exchange, the Singapore Stock Exchange, the Hong Kong Exchange, Euronext, the Deutsche Borse, and the Stockholm Stock Exchange (OM).

93. O'Hara, *supra* note 76.

Table 1. Regulatory Frameworks for Securities Markets

Stock Market	Governance Status	Regulators	How Is Regulation Handled?
Australian Stock Exchange (ASX)	Publicly listed corporation	Australian Securities & Investments Commission (ASIC)	ASIC oversees listing and delisting, and undertakes daily supervision of ASX's compliance with rules.
Deutsche Borse	Publicly listed corporation	Exchange Supervisory Authority – governmental agency, part of the Hessian Ministry of Economics	The ESA supervises listing/delisting, oversees trading practices, and investigates violations of exchange rules and regulations.
Euronext	Publicly listed corporation	Self-regulating	Euronext has a two-tiered structure with a Supervisory Board (SB) and a Managing Board (MB). The SB oversees actions and policies of the MB, and the SB's approval is required for all major decisions. The MB is responsible for listing/delisting decisions and the monitoring and supervision of trading.
Hong Kong Exchange (HKEx)	Publicly listed corporation	Securities and Futures Commission (SFC), an independent, nongovernmental statutory body	The SFC monitors and oversees trading in Hong Kong's futures and equity markets. The HKEx retains the power to list/delist and also monitors trading.
London Stock Exchange (LSE)	Publicly listed corporation	Financial Services Authority (FSA), a governmental agency	The FSA is the "super regulator" of the British capital markets. The FSA is charged with promoting fairness, transparency, and order conduct in financial

			markets. The LSE monitors trading behavior, while the FSA has taken over listing/delisting powers and retains general oversight of the LSE.
OM (Stockholm)	Publicly listed corporation	Finansinspektionen (FI), the Swedish Financial Supervisory Authority, a governmental agency	The FI sets listing standards and establishes rules regarding trading practices, compliance with insider trading rules, and information disclosure requirements.
Singapore Stock Exchange (SGX)	Publicly listed corporation	Self-regulating	The SGX has self-regulatory powers with respect to issuer regulation (i.e., listing standards), member supervision, market surveillance, and enforcement. The SGX retains the power to list/delist securities.
Toronto Stock Exchange (TSX)	Publicly listed corporation	Market Regulation Services, Inc. (RS), a national, independent not-for profit regulation services provider	RS is given regulatory responsibility for market policy, market surveillance, investigations, and enforcement. The TSX retains listing and delisting functions.

Perhaps the most straightforward approach to regulation is that of a single governmental regulator. The Deutsche Borse operates under such a structure, in which the Exchange Supervisory Authority controls virtually all aspects of trade monitoring, listing, and supervision. The Stockholm market is also under direct government supervision: it is overseen by the Finansinspektionen (FI), a public authority set up to supervise and monitor companies operating in the

financial markets.⁹⁴ The Stockholm Exchange represents a particularly interesting example, as this privatized market is now completely owned by the technology company OM.⁹⁵

An intriguing variant of the emerging international regulatory paradigm is found in the United Kingdom, where regulation of securities markets is overseen by the Financial Services Authority (FSA),⁹⁶ a “super regulator” created in 2000 to oversee all UK financial and banking markets. This super regulator has wide-ranging powers; in the area of securities regulation, it has taken over the setting and regulation of listing requirements for the London Stock Exchange. The FSA notes two goals for its listing authority: to “[f]acilitate access to listed markets for a broad range of enterprises; and [s]eek to maintain the integrity and competitiveness of UK markets for listed securities.”⁹⁷ The London Stock Exchange (LSE) still retains responsibility for monitoring and supervising trading practices on the Exchange. This shared arrangement of functional regulation is consistent with the arguments made earlier in this Article that profit-seeking exchanges may be well-suited to some regulatory tasks, like monitoring and disciplining insider trading and market manipulation, but not others, such as the maintenance of listing standards.

In contrast to the directly regulated markets discussed above, which are regulated by the government, several markets have retained a self-regulatory structure, the most notable of which are Euronext and the Singapore Stock Exchange (SGX). Euronext has a unique two-tiered governance structure involving a Supervisory Board and a Managing Board. The Supervisory Board is composed of independent members, who, by law, are not allowed to also serve on the Managing Board. The Managing Board is responsible for running the company, while the Supervisory Board oversees all exchange activities and is responsible for the overall regulation of the market. In accordance with Dutch law, all major decisions require the approval of the Supervisory Board, and the members of both boards are required to sign all financial statements.⁹⁸

Canada has chosen yet another regulatory variant for its regulation of the Toronto Stock Exchange (TSE). Canadian regulation is handled by Market Regulation Services, Inc. (RS), a national, independent, not-for-profit regulation services provider that is jointly owned by the TSE and the Investment Dealers Association of Canada. As an industry-run SRO, RS retains the basic self-regulatory approach but removes the influence of specific exchange ownership. RS is responsible for trade monitoring, rule setting, and

94. *Id.* at 50.

95. Mendiola & O'Hara, *supra* note 2, at 9.

96. O'Hara, *supra* note 76, at 47.

97. See Financial Services Authority, *UKLA Objectives 2004-2005*, <http://www.hm-treasury.gov.uk/media/875/BB/875BB646-BCDC-D4B3-1A48B97E25D40F6E.pdf> (last visited Oct. 12, 2005).

98. O'Hara, *supra* note 76, at 50.

enforcement for all security markets in Canada.⁹⁹

These alternative regulatory models differ from each other, but a feature common to all approaches is that there is a structural separation between the supervisory authority and the management of the exchange or market. This structural separation distinguishes the international markets from the typical U.S. model, in which the regulatory function is carried out directly by the exchange.¹⁰⁰ The separation of management from regulation is consistent with the notion that agency costs are too high when both management and supervision remain bundled in the same entity. Thus, the same economic forces that are changing the optimal economic organization of exchanges are changing their optimal regulatory structure as well.

Competitive pressures have now forced all U.S. trading venues, including the NYSE,¹⁰¹ to evolve toward the private ownership structure now so prevalent elsewhere in the world.¹⁰² The recent corporate governance reforms at the NYSE suggest that individual markets may adopt some incremental changes (albeit in concert with their rivals and under the coordinating eye of the SEC). The real issue remains how to regulate U.S. markets now that they are operating (or are on the verge of operating) as profit-seeking, publicly owned firms.

The NYSE has proposed retaining its regulatory arm as a wholly owned subsidiary of the NYSE Group, Inc., to be called NYSE Regulation.¹⁰³ As the NYSE disclosed in the Registration Statement it has filed with the SEC in connection with its proposed IPO of securities to the public:

[T]he SEC has expressed concern about the conflicts of interest that may arise when "for profit" exchanges perform self-regulatory functions for members.

99. Market Regulation Services Inc. Home Page, <http://www.rs.ca/en/home/> (last visited Nov. 17, 2005)

100. One exception to this U.S. trend is found in the reorganization of Nasdaq, where the regulatory arm was split off to form NASDR following the exchange's price-fixing scandal. NASDR is now separated from the Nasdaq market, but both are owned by the NASD.

101. On April 20, 2005, the NYSE announced its intention to merge with the Archipelago Exchange in a transaction that will result in the combined entity, which will be known as NYSE Group, Inc., becoming a publicly held company. *See* News Release, NYSE, New York Stock Exchange and Archipelago Exchange Agree To Merge (Apr. 20, 2005), <http://www.nyse.com/press/1113993488545/html>.

An earlier version of this Article predicted, correctly as it turned out, that "[t]here is little doubt that competitive pressures will force all U.S. trading venues such as the NYSE to evolve toward the private ownership structure now so prevalent elsewhere." *See* Jonathan R. Macey & Maureen O'Hara, *From Markets to Venues: Securities Regulation in an Evolving World* 47 (Mar. 2005) (draft on file with the *Stanford Law Review*).

102. *See* WORLD FEDERATION OF EXCHANGES ANNUAL REPORT 43 (2003) (reporting that in 2003 63% of the World Federation of Exchanges' member exchanges were for-profit).

103. *See* NYSE Group, Inc., Registration Statement Under the Securities Act of 1933 (Form S-4) (July 21, 2005), <http://www.sec.gov/Archives/edgar/data/1326579/000119312505146256/ds4.htm>.

In the event that NYSE Group fails to manage any conflicts of interest adequately, there may be a material adverse effect on the business, financial condition and operating results of NYSE Group.¹⁰⁴

Like the Euronext model, the new NYSE structure will include separate boards of directors for the entity conducting the exchange function, New York Stock Exchange, LLC, and the entity conducting the regulatory function, NYSE Regulation, although it is not clear how many directors the two entities will share in common.¹⁰⁵ It is also not clear why common directors are needed.

Further, it appears that the only significant difference between the new entity and the old entity is that the regulatory function will be conducted in a separate corporation, rather than in a separate division. The plan envisions that "NYSE Regulation will continue to be responsible for the regulation of NYSE members, member organizations and their employees."¹⁰⁶ NYSE Regulation will, in addition, assume the regulatory responsibilities of the Pacific Exchange, which Archipelago previously had performed.¹⁰⁷ A distinct disadvantage of the approach being taken by the NYSE in its proposed merger is that it retains multiple regulators at competing exchanges, an expensive and costly approach that ignores the scale benefits of standardized technology for market oversight. Perhaps more importantly, this approach retains the premise that profit-seeking firms can be trusted to regulate themselves, or at least that directors of the regulatory arm can serve simultaneously without conflict as directors of the regulated entity. These are questionable assumptions given the recurring scandals in U.S. equity markets.

CONCLUSION

This Article has explored the changing nature of stock exchanges and the implications of this change for securities regulation. Our premise is that stock exchanges have evolved from being the central market to being one of many venues trading securities. This evolution from markets to venues has largely been due to the decrease in transaction costs, which has allowed alternative providers of liquidity to enter the securities trading business. As a consequence, the internal structure of stock exchanges has also changed, with exchanges worldwide converting from a cooperative structure to a profit-seeking corporate structure.

This change in the form and function of stock exchanges has profound implications for the structure of securities regulation. As we have argued here, market forces have forced exchanges to adapt, but there are no similar market

104. *Id.* at 31.

105. *Id.* at 227 (disclosing only that NYSE Regulation will have a "board of directors that will include some directors from NYSE Group and some directors unaffiliated with NYSE Group").

106. *Id.* at 226.

107. *Id.*

November 2005]

FROM MARKETS TO VENUES

599

forces acting on the structure of securities regulation. We contend that the changing incentives of exchanges render obsolete many of the current features of securities regulation and raise particular concerns with the role of self-regulation by shareholder-owned publicly listing exchanges. Our analysis suggests that while self-regulation of some aspects of securities market operation may be enhanced in corporate stock exchanges, other facets of self-regulation will fail miserably. This divergence reflects the fact that firms will set efficient legal rules only to the extent that the firm internalizes all the costs and benefits of the rules it promulgates. The current structure of self-regulation allows exchanges to impose costs on competitors while retaining benefits for themselves. Such a regulatory structure cannot hope to succeed.

We propose that a better structure for securities regulation would allocate to firms decisions regarding the internal operations of securities trading and assign to the SEC decisions relating to the overall market. Thus, regulation of listing and delisting, which define access to the U.S. capital markets, are better handled by the SEC, while decisions regarding trading system capacity are handled more effectively by the market itself. We also would transfer oversight and monitoring of trading practices to the SEC, reflecting our belief that the incentives of exchanges are not compatible with the policing of these activities.

Self-regulation of securities markets has had a long, and troubled, history in the United States. As exchanges evolve to being corporate entities operating in a world of many trading venues, a new regulatory structure must evolve as well. Our analysis has suggested a number of necessary features of this new structure, but many specific issues remain to be addressed in future work.

