

# REGULATING EXCHANGES AND ALTERNATIVE TRADING SYSTEMS: A LAW AND ECONOMICS PERSPECTIVE

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## ABSTRACT

New trading technologies are transforming securities markets, and with their rise have come important questions regarding the regulation of new and traditional trading mechanisms. This article provides a law and economics perspective on the regulation of alternative trading systems. We argue that alternative trading systems play a distinct role in the market and in particular solve the conflict-of-interest problem that exists between brokers and dealers. We propose a general strategy for their regulation that incorporates this economic role. We suggest a regulatory framework that permits providers of services to opt into particular regulatory frameworks as a way of fostering innovation and competition. The functional approach we outline is consistent with the Securities and Exchange Commission's regulatory objectives of fairness, efficiency, and transparency of market transactions.

## I. INTRODUCTION

CAPITAL markets play an important role in America's economy. Indeed, the role played by capital markets in the United States is more important than the role played by such markets in European or Asian countries, where firms tend to rely more on bank financing for their capital needs.<sup>1</sup> The strength of U.S. capital markets can be traced to two sources. First, regulations such as the Bank Holding Company Act and the Glass Steagall Act, which impede the ability of commercial banks to take an active role in corporate finance, have raised the costs of commercial bank lending as a financ-

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<sup>1</sup> Congress has declared U.S. domestic securities markets to be an "important national asset which must be preserved and strengthened." 15 U.S.C. § 78k-1(a)(1)(A) (1994).

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ing channel and fostered the growth of capital markets as a substitute.<sup>2</sup> Second, the strength of U.S. capital markets also can be undoubtedly traced to the significant amount of confidence investors have in the efficiency and fairness of those markets. Capital markets will not flourish if investors think that their orders to purchase and sell securities will not be executed quickly and fairly.

In large part, the efficiency and fairness of U.S. capital markets are due to competitive factors. Competition among rival trading mechanisms—including national and regional exchanges, broker-dealer firms, broker-dealer trading systems (also known as alternative trading systems (ATSs)), and the over-the-counter-markets—has required all market participants to respond to customer demands for fairness and efficiency and to invest in new technologies. As the Securities and Exchange Commission (SEC) has recognized, technological innovation has been a key component of the success of U.S. capital markets: “Technology has provided a vastly greater number of investment and execution choices, increased market efficiency, and reduced trading costs. These developments have enhanced the ability of U.S. exchanges to implement efficient market linkages and advanced the goals of the national market system (‘N.M.S.’).”<sup>3</sup>

Another reason investors have the requisite confidence in the efficiency and fairness of U.S. capital markets is their high degree of confidence in the regulatory system. The SEC has played an extremely active role in policing U.S. securities markets against insider trading and other types of fraud and, indeed, has been much more active in this regard than its counterparts in other countries. In addition, the SEC has allowed a high degree of innovation in the U.S. capital markets, due perhaps to its following Congress’s admonition that “in economic areas affecting the securities industry, competition, rather than regulation should be the guiding force.”<sup>4</sup>

New trading technologies are now introducing dramatic changes into the

<sup>2</sup> Mark J. Roe, *Strong Managers, Weak Owners: The Political Roots of American Corporate Finance* (1994).

<sup>3</sup> In 1975, Congress made major amendments to the Securities and Exchange Act of 1934 by adding section 11A to foster the creation of a national market system. The legislation empowered the SEC to pursue five objectives in its implementation of the national market system legislation. These objectives were to assure “(i) economically efficient execution of securities transactions; (ii) fair competition among brokers and dealers; and among exchange markets and between exchange markets and markets other than exchange markets; (iii) the availability to brokers, dealers, and investors of information with respect to quotations for and transactions in securities; (iv) the practicability of brokers executing investors’ orders in the best market; (v) an opportunity, consistent with the provisions of clauses (I) and (iv) of this subparagraph, for investors’ orders to be executed without the participation of a dealer.” Securities and Exchange Act of 1934 § 11A(1)(C), 15 U.S.C. § 78k-1(a)(1)(C).

<sup>4</sup> House Report on S. Rep. No. 249, *Securities Acts Amendments of 1975*, H.R. Rep. No. 94-123, 94th Cong., 1st Sess. 1, at 47 (April 1975), citing Securities Industry Study, Report

behavior of securities markets, and with their rise have come important questions regarding the regulation of both new and traditional trading mechanisms. Alternative trading systems currently handle almost 4 percent of orders in New York Stock Exchange-listed securities and 20 percent of the order flow in over-the-counter stocks.<sup>5</sup> These ATs include a variety of trading approaches. For example, systems such as Instinet, Island Trading System, and Tradebook allow market participants to convey firm orders at specific prices to other market participants and then execute those orders automatically against other orders in these systems. The new OptiMark system goes even further by allowing traders to submit satisfaction profiles as part of their orders. Crossing networks, such as those operated by Instinet and POSIT, allow investors to enter orders to execute against corresponding orders at prevailing market prices.

How these trading systems should be regulated is not obvious. Moreover, as new technologies develop, the regulatory structure of existing securities venues is called into question. These developments have led the SEC to reconsider the relevance and effectiveness of current regulation and to recognize the need to “develop a forward-looking and enduring approach that will permit diverse markets to evolve and compete while preserving market-wide transparency, fairness and integrity.”<sup>6</sup>

In this article we provide a law and economics perspective on the regulation of ATs. The starting point for our analysis is that ATs are an important and fundamental change in the trading of securities, and their regulation must recognize the economic role such trading systems play in the capital markets. Section II begins with a general discussion of the purposes of regulating capital markets. In this section, we articulate the general arguments in favor of regulation and develop arguments for why regulation is needed in securities markets. We also specify which sets of problems regulation ought to address and which sets of problems are best left to solutions generated by market outcomes. Section III specifies in more detail the goals of regulation of trading systems relating to U.S. secondary trading markets for securities. This section deals with the particular regulatory goals of the Congress’s 1975 National Market System legislation. The regulatory goals of achieving fairness, transparency, the efficient execution of trades, the execution of orders without dealer intervention, fragmentation, and liquidity are discussed. Also, the proper regulatory response to the problem of conflicting regulatory goals is discussed in this section.

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of the Subcommittee on Commerce and Finance of the Committee on Interstate and Foreign Commerce, H.R. Rep. No. 92-1519, 92d Cong., 2d Sess. 1 (1972).

<sup>5</sup> SEC Concept Release, 62 Fed. Reg. 30,486 (1997).

<sup>6</sup> *Id.*

In Section IV we propose a general strategy for attaining the regulatory objectives outlined in the previous sections. Consistent with other applications of law in the area of finance, we recommend a general philosophy of favoring enabling rules over mandatory rules. We suggest a regulatory framework that permits providers of services to opt into particular regulatory frameworks as a way of fostering innovation and competition. We develop the idea that, because customers of execution services choose the vector of execution services that best meet their objectives, suppliers of execution services should be able to specify the precise bundle of services they offer to clients. In this section of the article we argue that customers select various trading mechanisms to address particular trading problems. Specifically, we argue that ATSS are flourishing because they solve the conflict-of-interest problem that exists between brokers and dealers. At the same time, traditional trading forums, such as the New York Stock Exchange (NYSE) are flourishing because the unique bundle of liquidity and reputational services they offer also is in demand. Regulation can improve market conditions and help maintain the competitiveness of U.S. capital markets only if it comprehends the bundle of services offered by various market participants and crafts regulations that lower the costs of providing these services.

Alternative trading systems operate efficiently and as productive market components when they (1) protect their customers' property rights in information, (2) solve the conflict-of-interest problems that exist within firms that act simultaneously as brokers and dealers, and (3) innovate to further improve market conditions by reducing the transactions costs associated with secondary market trading. Thus, a strategy that permits market participants to opt into the particular framework that best meets their institutional objectives best attains the regulatory objectives of fairness, efficiency, and transparency of market transactions. The functional approach we outline is consistent with the SEC's policy concerns about these and other issues. Clearly, to the extent that these are worthwhile regulatory objectives, no market participant should be able to avoid these regulations simply by configuring themselves so that they are regulated as one type of an entity rather than another. In other words, market participants should not be able to avoid regulatory compliance simply by "reverse-engineering" themselves to fit into a more desirable regulatory category. There is no reason to think that a market participant such as an ATS should be forced to offer services to customers that it does not wish to provide, particularly when those services are already offered voluntarily by their competitors.

Section V of the article then addresses specific issues relating to the implementation of our suggested approach. It provides some specific observa-

tions about the SEC's regulation of ATs and offers some comments on the nature of securities regulation in a technological age. The article's final section is a conclusion.

## II. THE PURPOSES OF REGULATING FINANCIAL SERVICES AND MARKET MICROSTRUCTURE

Within any economy, certain decisions are made within firms, while other decisions are made across markets, and still others are made by regulation. While there is a wide divergence of opinion as to whether particular economic activities should be regulated, there is substantial consensus as to the purpose of regulation in the securities markets. There is even more agreement about the proper scope of regulation and, in particular, about which areas of market activity should be free of regulation.

It is generally accepted that firms should be able to decide for themselves what products to produce. Firms, within certain well-known boundaries involving product safety, should be able to decide the attributes of those products. Thus, for example, while there may be tax-code issues, there are no general regulations restricting firms in the area of securities design. Firms that wish to design securities with various options and conversion features are free to do so.

Similarly, there are virtually no regulatory restrictions on the allocation of economic activity within firms and across markets. Generally speaking, economic activity within firms is burdened by agency costs and other contracting problems, while economic activity across markets is restricted by pervasive transaction costs. Firms and entrepreneurs can reduce agency costs by shifting activities from firms to markets, and they can reduce transaction costs by shifting activities from markets to firms.

Technological change and other sorts of innovation can lower both transaction and information costs, thereby shifting the preexisting equilibrium between the portion of total economic activity that takes place within firms as opposed to across markets. Indeed, the incentive for technological change and innovation in the financial services sector often stems from a desire to control either agency costs or transaction costs in particular situations. For example, the decision to issue convertible bonds may reflect an effort on the part of a firm seeking financing to solve the moral hazard problem that exists between fixed claimants and shareholders. Investors considering making fixed investments in a firm are concerned that the shareholders will transfer wealth to themselves from the fixed claimants by increasing firm volatility after an investment is made. Convertible bonds mitigate this problem by allowing the bondholders to use the conversion option both to share in upside gains that will come from successful investments and to in-

sulate themselves from downside losses by retaining the priority in bankruptcy that comes from being a creditor instead of a shareholder.

Similarly, by listing on a stock exchange, a firm can reduce transaction costs by opting into a panoply of rules that govern the activities of stock exchange members. In turn, stock exchanges are firms that market transaction services to facilitate trading, allowing them to profit from the listing and other transaction fees they impose on listing firms and other customers. Exchanges sell a bundle of products for listed firms, specifically (1) the provision of liquidity to compensate for temporary imbalances in order flow; (2) monitoring of trading patterns, dispute resolution, and corporate governance in exchange-listed securities; (3) the development of standardized contracts to reduce transactions costs for investors in listed stocks; and (4) the provision of reputational capital to listing firms.<sup>7</sup>

This is the bundle of services offered by exchanges, but not all firms that offer transaction services choose to offer this particular bundle of services. Whatever the precise configuration of services available from every firm, every institution offering trading services, whether it is a broker-dealer firm or an exchange, has an incentive to offer the package of services that is best able to attract the order flow: “Exchanges face the same incentives to provide high-quality products [i.e., transactional services] as any other business. Just as a manufacturer of automobiles has strong incentives to make a product that consumers want in order to maximize its profitability, an exchange has incentives to design transactional and ancillary services that investors prefer.”<sup>8</sup>

Within a market economy, firms should have the freedom to choose for themselves the precise bundle of services they offer to their customers, a freedom analogous with the decision (within the bounds of antitrust laws) on the prices they charge for their services. Thus, the precise bundle of services offered by the NYSE, which limits its membership as well as access to its trading floor, differs in significant ways from the bundle of services offered by NASDAQ, which charges fees based on the level of services members select from the electronic quotation and trading systems managed by that institution.

The SEC has been sensitive to the salutary role played by financial innovation and dynamic market forces in the development of the financial markets. With respect to ATSS, new technologies are thought to “have bene-

<sup>7</sup> Jonathan R. Macey & Hideki Kanda, *The Stock Exchange as a Firm: The Emergence of Close Substitutes for the New York and Tokyo Stock Exchanges*, 75 *Cornell L. Rev.* 1007 (1990).

<sup>8</sup> Daniel R. Fischel, *Organized Exchanges and the Regulation of Dual Class Common Stock*, 54 *U. Chi. L. Rev.* 119, 123 (1987).

fited investors by increasing efficiency and competition, reducing costs, and spurring further technological advancement of the entire market. In particular, for those market participants that have access to ATSS, these systems have provided opportunities for the direct execution of orders without the active participation of an intermediary. Alternative markets are likely to grow as technology continues to drive the evolution of equity markets.”<sup>9</sup> The SEC recognizes that regulation should be responsive to changes in market conditions in order not to stifle innovation.<sup>10</sup> Despite the well-established benefits of private ordering and private contracting, markets do not solve all of the problems that are generated by economic activity within the financial system.

Consequently, regulation in the financial markets is necessary for three general reasons. First, incomplete contracts can prevent markets from working by increasing to prohibitive levels the costs of transacting in the market. Second, there may be an acute problem with enforcement in the absence of some centralized regulation. Third, there may be effects on third parties or externalities that arise in the functioning of markets.

#### A. *The Problem of Incomplete Contracts*

Regulation is necessary if complete contracting is too costly. Like corporate law, the law regulating securities trading supplies standardized “off-the-rack” terms that allow investors and other market participants to save on the cost of contracting.<sup>11</sup> The regulations provided by securities laws, judicial decisions, the SEC, self-regulatory agencies such as the National Association of Securities Dealers (NASD), and the exchanges freely supply contractual terms to market participants, “enabling the venturers to concentrate on matters specific to their undertaking.”<sup>12</sup> In other words, over a wide range of issues, the provision of financial services law is a public good. Private enterprise cannot capture all of the gains associated with solving the contracting problems associated with making investments because it is very easy for competitors to copy the contractual provisions that their competitors have worked out.

A straightforward implication of the above analysis is that financial services law should be enabling rather than mandatory. Because the reason for the regulation is to reduce costs for the contracting parties, those parties

<sup>9</sup> SEC Concept Release, 62 Fed. Reg. 30,489 (1997).

<sup>10</sup> *Id.* at 30,488.

<sup>11</sup> Frank Easterbrook & Daniel R. Fischel, *The Economic Structure of Corporate Law* (1991), at 34; and see also Frank Easterbrook & Daniel R. Fischel, *The Corporate Contract*, 89 *Columbia L. Rev.* 1416 (1984).

<sup>12</sup> Easterbrook & Fischel, *The Economic Structure of Corporate Law*, *supra* note 11, at 34.

should be able to opt out or contract around the standard form rules supplied by the legal system whenever the benefits associated with the drafting of special rules outweigh the transaction costs. Mandatory rules fail to allow market participants to tailor their relations to the particular obstacles facing them in particular situations.

### *B. The Problem of Enforcement*

Another justification for regulation is to provide for enforcement services. With respect to the regulation of ATSS, the SEC has expressed concerns in a recent Concept Release about lack of surveillance for market manipulation or fraud. These concerns include issues such as whether the commission should require ATSS to provide additional information (such as counterparty identities) to their Self-Regulatory Organizations (SRO) and what methods the SEC could use to enhance market surveillance of activities on ATSS.<sup>13</sup>

The SEC's concerns are curious in light of the fact that ATSS have not created any real or perceived enforcement problems for the SEC. Nonetheless, the SEC is correct to err on the side of caution in making sure that it continues to police the markets so as to maintain market integrity and stability. Yet, the SEC cannot attain its stated objectives of preventing fraud and manipulation if it singles out ATSS for special regulatory treatment that is not extended to direct competitors, such as brokers and dealers, who provide similar services. Otherwise, whatever regulations the SEC promulgates to combat fraud and manipulation will merely shunt these undesirable activities to other trading forums. Thus, the SEC must promulgate rules that apply uniformly and consistently to all market participants if it is to succeed in its enforcement efforts.

Moreover, the presence of economies of scale in the enforcement of anti-fraud regulations plays a role. Monitoring and enforcement of securities trading is one area in which significant economies of scale can be realized. As trading systems proliferate, the advantages of a centralized monitoring and enforcement mechanism increase. At the moment there are at least nine extant ATS/electronic communications networks, with many more in development.<sup>14</sup> To require each system to maintain independent stop-watch and other surveillance systems would be highly costly and duplicative. Such

<sup>13</sup> SEC Concept Release, 62 Fed. Reg. 30,497 (1997).

<sup>14</sup> These systems include Ashton Technology, Bear Stearns, Castle Securities, Goldman Sachs, Herzog, Heine & Geduld, Knight Securities, Sherwood Securities, Spear, Leeds & Kellogg, and Troster Singer.



a requirement would also place new entrants at a significant competitive disadvantage and would stifle technological and other forms of innovation.

Monitoring at the market level, rather than at the level of the individual firm or trading system, is necessary to maximize the efficiency and, thereby, the competitiveness of the U.S. capital markets. Specifically, the SEC should develop the parameters for audit trails for all trading, including trading on exchanges, ATSS, and within traditional broker-dealer firms. Enforcement will be enhanced if all trading in particular securities can be monitored collectively. Individual firms, including ATSS, cannot conduct this sort of monitoring because they do not observe all, or even most, of the order flow in the securities they trade. Thus, with respect to enforcement, ATSS should serve a reporting function, rather than a monitoring function.<sup>15</sup>

Certain market reforms, such as eliminating off-exchange (also called “off-board”) trading restrictions have already required the SEC to develop transactional audit trail procedures sufficient to fulfill the SEC’s monitoring responsibilities. The argument that the SEC now finds itself unable to monitor transactions on ATSS, or other over-the-counter markets, seems particularly puzzling given that trading in these alternative forums does not present particularly serious monitoring problems. All transactions reported on the consolidated tape are monitored, and all transactions on securities executed “otherwise than on an exchange” must be reported through the transaction reporting system. Information is currently available on the price, location, and time of off-exchange transactions, just as it is for on-exchange transactions. The marginal benefit of any additional requirements is questionable.

Moreover, there is no evidence of significant monitoring problems plaguing U.S. secondary markets for securities, in general, or the trading on ATSS, in particular. Using Instinet, the largest of these ATSS, as an example, there has never been a legal or administrative proceeding against Instinet in connection with any of its activities. This likely is due to the obvious fact that trading on an electronic system can be easily traced by regulators.<sup>16</sup> Even

<sup>15</sup> While we fully recognized the importance of monitoring and surveillance in order to reduce the incidence of fraud and to maintain public confidence in the integrity of U.S. capital markets, at the same time we think it is important to observe that organized industry groups, particularly the organized exchanges, have used the specter of market surveillance as a justification for curtailing competition by limiting new sources of competition for traditional service providers. For discussion, see Jonathan R. Macey & David D. Haddock, *Shirking at the SEC: The Failure of the National Market System*, 1985 U. Ill. L. Rev. 315, 345 (1985); see also *Proceeding before the Securities and Exchange Commission, In the Matter of Rules of National Securities Exchanges Which Limit or Condition the Ability of Members to Effect Transactions Otherwise Than on Such Exchanges*, SEC File No. 4-180 (1975), at 22–23, 83; and *SEC Warns Big Board to be “Fair” in Best Execution Probe of Member Firms*, *Sec. Wk.*, March 31, 1997, at 1.

<sup>16</sup> Consistent with this analysis, the recent investigation of anticompetitive and abusive practices in the NASDAQ stock market found no evidence of manipulative, fraudulent, or

assuming that such fraud-related difficulties could arise in the future despite their absence in the past, the private remedies available under the securities laws, including SEC Rule 10b-5, provide a veritable army of potential plaintiffs to insure that purchasers and sellers of securities in off-exchange transactions will not be defrauded.<sup>17</sup>

Thus, our argument is that (1) there is no evidence that a problem exists, (2) regulations requiring additional burdens of surveillance and monitoring can have significant anticompetitive effects, (3) a comprehensive framework for monitoring already exists, and (4) injured parties currently enjoy a comprehensive set of private remedies. Consequently, the notion in the SEC Concept Release that ATSs have “impeded effective integration, surveillance, enforcement and regulation of the U.S. markets as a whole” and that there are “gaps . . . in the structures designed to ensure market fairness, transparency, integrity and stability” appears both unfounded and erroneous.<sup>18</sup>

### *C. The Problem of Third-Party Effects*

Perhaps the best known justification for regulation is where private contracting among parties produces “externalities,” or effects on third parties. The agreements reached among contracting parties will only be optimal from a societal perspective if the contracting parties bear the full costs of their decisions and reap all of the gains. Indeed, if the parties to a contract do not bear all of the costs of their agreement, these additional costs, which are borne by third parties, may outweigh the gains from the transactions.

The problem of market fragmentation with respect to ATSs represents an applied example of the abstract problem of third-party effects. Market fragmentation reflects a variety of concerns about the consequences of a significant amount of trading occurring outside of organized exchanges. It has been argued that when order flow is diverted from the organized exchange on which it is principally listed, the markets’ ability to price securi-

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otherwise improper activities on the ATS. Indeed, with respect to one of these ATSs, the SEC went out of its way to conclude that “nothing suggests improper or illegal activity by Instinet.” Securities Exchange Act Release No. 37,542 (August 8, 1996), at 22, n.48.

<sup>17</sup> SEC Rule 10b-5, 17 C.F.R. § 240.10b-5 (1979), prevents fraud or deceit in connection with the purchase or sale of any security. In addition, § 9(e) of the Securities Exchange Act of 1934 creates a private right of action against persons who engage in the manipulation of securities prices by creating a false appearance of trading activity; see 15 U.S.C. § 78i(e) (1980). Section 18 of the Securities Act of 1934 creates a private right of action against persons who “make or cause to be made” materially misleading statements or reports in documents filed with the SEC. 15 U.S.C. § 78r(a) (1980).

<sup>18</sup> SEC Concept Release, 62 Fed. Reg. 30,486 (1997).

ties efficiently may decline.<sup>19</sup> This, in turn, can cause the quality of brokerage services to decline as it becomes unclear where a buyer or seller can obtain the best price for her order.

The arguments for and against fragmentation are developed in more detail in the next section, but several points are immediately relevant for our context here. First, fragmentation per se may reflect the vitality of a market if it arises from competitive innovation. In particular, one reason that orders have been gravitating away from their traditional arenas is simply that execution costs in rival forums have been lower. Thus, diversion of order flow can be, generally speaking, a positive manifestation of competition seeking better prices. There are two exceptions to this general observation. First, market fragmentation is inefficient in cases where the diversion of order flow to rival markets results not from better prices in those rival markets but from an effort in the rival market to exploit the agency costs that exist between brokers and their customers. Second, market fragmentation is undesirable where it results from free riding on the property rights in information generated in the primary market.

The agency cost issue can arise if markets compete by pitting the interests of brokers against those of customers. For example, it is well known that brokers owe their customers a fiduciary duty of best execution, which requires that brokers execute their customers' orders at the best possible prices. Under certain circumstances where a broker receives payment from rival markets for directing orders to those markets, and those payments are not rebated to the customer, the fiduciary duty of best execution will be violated.<sup>20</sup> In such circumstance, there is a role for regulation to prevent customer interests from being subverted to that of brokers and dealers. But, even in this case, the regulatory mandate is not clear. The courts, and the SEC, have been loathe to prohibit payment for order flow, in part because such payments may allow for vertical integration of the order process and with it a potential reduction of execution costs. Thus, rather than ban such market practices in general, the SEC faces the harder task of balancing the third-party costs of these actions with the third-party benefits.

<sup>19</sup> This concern has been raised by the SEC periodically over the years. See Securities Exchange Act Release No. 13,662, 42 Fed. Reg. 33,510, 33,515 (1977). This issue is also addressed by Lawrence Harris, *Consolidation, Fragmentation, Segmentation, and Regulation*, in *Global Equity Markets: Technological, Competitive, and Regulatory Challenges* (Robert A. Schwartz ed. 1995); and Charles M. C. Lee, *Market Integration and Price Execution for NYSE-Listed Securities*, 48 J. Fin. 1009 (1993).

<sup>20</sup> Jonathan R. Macey & Maureen O'Hara, *The Law and Economics of Best Execution*, 6 J. Fin. Intermediation 188 (1997). See also *In Re Merrill Lynch*, No. CIV 94-5343 (DRD), 1995 WL 746866 (D.N.J.); *Payment for Order Flow*, Exchange Act Release No. 33,026, 58 Fed. Reg. 52,934 (1993); and *Payment for Order Flow*, Exchange Act Release No. 34,902 [1994 Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶ 8544 (October 27, 1994).

The issues surrounding market free riding are similarly complex. One way to prevent free riding is to force all trading into one venue, but this then sacrifices all benefits from competition and inevitably leads to wider spreads and, thus, higher transaction costs. Moreover, requiring that all trading take place in a single venue forces all customers to “purchase” the same bundle of market services, even those they do not want. If free-riding problems are severe enough to threaten the viability of the primary venue, then the economic justification to restrict such activity is unequivocal. For less severe outcomes, the mandate for regulation is much less clear.

### III. REGULATORY OBJECTIVES

Section II outlined the rationale for regulation in securities markets. Yet, while recognizing the thesis that regulation is vital for the functioning of markets, there remains the more immediate question of what practical objectives regulation is supposed to achieve. In this section, therefore, we consider the basic question of the goals or objectives of security market regulation.

Our starting point is provided by the recognition that the SEC is mandated by Congress “to facilitate, but not design, the development of a National Market System.” In setting out this mandate, Congress identified five properties that it directed the SEC to pursue: (1) economically efficient execution of securities transactions, (2) fair competition, (3) transparency, (4) investor access to the best markets, and (5) the opportunity for investors’ orders to be executed without the participation of a dealer.

In delimiting these properties, Congress presumably viewed each element as contributing to the development of a securities market capable of meeting the diverse needs of participants in an optimal way. Hence, while these conditions provide a natural benchmark by which the functioning of securities markets can be tested, they are not in themselves the end goal of regulation. Because the conditions themselves can be contradictory, their simultaneous attainment at any given point in time is an economic impossibility. Moreover, the exact meaning of each condition is not precise, dictating a need for regulatory discretion in interpretation. These difficulties suggest a need to evaluate how well each condition contributes to the overall goal of promoting the “best markets” for the trading of securities, particularly when “best” may mean very different things for different clientele.

#### A. *Economically Efficient Execution of Securities Transactions*

The goal of efficient execution of securities transactions seems unassailable. One would hardly advocate a regulatory goal of achieving subefficient execution or even “mostly” efficient execution. Yet, this directive leaves

unanswered several important issues, largely because efficiency per se is multifaceted. Efficient execution clearly involves a transactional component in the sense of minimizing execution costs for traders, but it must also surely involve the notion of price discovery or of prices being efficient in the sense of impounding information. These two concepts, both so important for the functioning of markets, may hold very different regulatory implications.

The minimization of execution costs is a fundamental objective for traders in markets, but it is not straightforward. As we have shown in other work, the duty of best execution is both widely recognized and virtually unachievable.<sup>21</sup> The difficulty arises, in part, from the fact that the relevant execution costs may differ dramatically across types of traders. A small retail trader, for example, may be concerned with the bid/ask spread and the commission charged by his broker. An institutional trader is generally more affected by price impact than by spreads, with commissions likely to be negligible in comparison.

Not surprisingly, these divergent needs are not always met in the same trading venue, but if markets are economically efficient, they will be met overall as specialized forums are supplied to meet specialized demands. Thus, having large-volume traders opt for an upstairs market or ATS in which to trade while retail traders prefer dealer or exchange settings is surely consistent with the goal of efficient execution. Even within the realm of trader choice, however, regulatory issues arise. There is now a substantial and persuasive body of work showing that transaction costs on the NASDAQ are substantially higher than on the NYSE.<sup>22</sup> Nonetheless, the SEC has not mandated that all trades occur on the NYSE, recognizing in part that consolidation of trading does not necessarily foster the long-run goal of economic efficiency.

The issues connected with informational efficiency are similarly complex.<sup>23</sup> Security prices do not instantaneously gravitate to their full-information values. Instead, it is through the process of trading that information becomes impounded into security prices. But all trades are not

<sup>21</sup> Sources cited note 19 *supra*.

<sup>22</sup> See, for example, Hendrik Bessembinder & Herbert M. Kaufmann, A Comparison of Trade Execution Costs for NYSE and NASDAQ-Listed Stocks, 32 J. Fin. & Quantitative Analysis 287 (1997); Roger D. Huang & Hans R. Stoll, Dealer versus Auction Markets: A Paired Comparison of Execution Costs on NASDAQ and the NYSE, 41 J. Fin. Econ. 313 (1996); William G. Christie & Roger D. Huang, Market Structures and Liquidity: A Transactions Study of Exchange Listings, 3 J. Fin. Intermediation 300 (1994).

<sup>23</sup> There is a large market microstructure literature analyzing how markets become informationally efficient. For discussion and analysis, see Maureen O'Hara, Market Microstructure Theory (1995).

created informationally equal; the orders of small, retail traders tend to be less informative than are those of market professionals. Similarly, all trading venues are not equally important in this process. There is convincing evidence that for exchange-listed stocks, virtually all price discovery takes place on the NYSE with the regional exchanges playing, at best, a minimal role.<sup>24</sup>

If the goal of regulation is to create the most informationally efficient market, then it could be argued that this is best served by forcing all trades onto the NYSE. But this policy is shortsighted by failing to recognize that trading venues play many roles and that for some traders other aspects of trading are more important. Certainly, for the market as a whole it is crucial that the price discovery process occur. It is equally true that many current market practices (such as payment for order flow) may undermine this by essentially “cream-skimming” orders from the main market.<sup>25</sup> Nonetheless, it does not appear that the underlying price discovery process requires every order to participate, nor does it appear to matter if some traders prefer to trade off the potential for price improvement for the promise of lower trading commissions.

In summary, while the objective of economically efficient execution for the market as a whole seems a desirable goal, its cognate goals of minimizing transaction costs and maximizing informational efficiency are more elusive. Each market participant faces different costs and benefits that cannot be easily addressed by a single rule. Thus, while the overall achievement of efficient execution is important, regulation will only be effective if it accounts for these individual differences.

### *B. Fair Competition*

The issues involved in this regulatory objective are similarly complex. It is unlikely that the goal of an effective national market system can be met if equal competitors are treated unequally. Thus, it seems straightforward to argue that one objective of regulation is to level the playing field between competitors. This does not mean, of course, that all competitors will or should fare equally in terms of outcomes but, rather, that they have the ability to compete in the market.

Where this issue is less straightforward is when the competition involves

<sup>24</sup> See Joel Hasbrouck, *One Security, Many Markets: Determining the Contribution to Price Discovery*, 50 *J. Fin.* 1175 (1995).

<sup>25</sup> See David Easley, Nicholas M. Kiefer, & Maureen O’Hara, *Cream-Skimming or Profit-Sharing: The Curious Role of Purchased Order Flow*, 51 *J. Fin.* 811 (1996); Robert H. Battalio, *Third Market Broker-Dealers: Cost Competitors or Cream Skimmers?* 52 *J. Fin.* 341 (1997).

different segments of the market or involves different points in the execution process. Is it unfair, for example, if dealers enter into preferencing arrangements with retail brokers, essentially violating the time-priority principle previously governing markets? There is growing evidence that such agreements can widen spreads, weaken informational efficiency, and enrich dealers at the expense of traders.<sup>26</sup> Nonetheless, it can be argued that such arrangements also economize on transaction costs by incorporating vertical economies of scale.

The issue of fair competition is further complicated by the role played by innovation. A single set of rules applied uniformly across all trade venues may be “fair” but also can be highly detrimental both to the needs of traders and to the development of a functioning market system. New technologies provide the potential to better meet trading needs but, like most innovations, may require a certain scale to do so. The nature of markets is such, however, that the largest markets have a natural advantage in competition because of the important role played by liquidity.

The SEC has long recognized this dilemma and has allowed exemptions from rules for new trading systems like the Arizona Stock Exchange.<sup>27</sup> Presumably, market forces over time will decide which innovations prevail, a sentiment in line with Congress’s directive to facilitate but not to design a national market system. These arguments suggest that the goal of fair competition is not a mandate for uniformity but, rather, an objective to allow market forces to fairly influence the viability of ATSS.

### C. *Transparency*

Transparency relates to the observability of trading process information. In line with the congressional mandate, the SEC’s view of transparency is straightforward: “The Commission has long believed that transparency—the real time, public dissemination of trade and quote information—plays a fundamental role in the fairness and efficiency of the secondary markets . . . transparency helps to link dispersed markets and improves the price discovery, fairness, competitiveness and attractiveness of U.S. markets.”<sup>28</sup> Con-

<sup>26</sup> See Robert Bloomfield & Maureen O’Hara, Does Order Preferencing Matter? 50 J. Fin. Econ. 3 (1998); Prajit K. Dutta & Ananth Madhavan, Competition and Collusion in Dealer Markets, 52 J. Fin. 245 (1997); Huang & Stoll, *supra* note 21. See also Hal Lux, NASDAQ Preference Rule Draws Scrutiny in Legal Controversy, Investment Dealers Dig., May 15, 1995.

<sup>27</sup> Securities Exchange Act Release No. 27,611 (January 12, 1990), 55 Fed. Reg. 1890 (January 19, 1990) (the “Delta Release”).

<sup>28</sup> See SEC Market 2000 Study, Chapter IV-1, in The Unlisted Trading Privileges Act of 1994 and Review of the SEC’s Market 2000 Study: Hearing Before the Subcomm. on Telecommunications and Finance of the House Comm. on Energy and Commerce, 103d Cong., 2d Sess. (1994).

sistent with this view, all U.S. exchanges and dealer markets are currently required to report immediately all trade prices, trade volumes, and quotes to the Intermarket Trading System.<sup>29</sup>

Of the objectives thus far considered, however, transparency may be the most problematic. One immediate issue is determining what information should be transparent. There is general agreement in the United States that trade transparency enhances informational efficiency, although this view is not shared by all European or Asian markets.<sup>30</sup> It is also fairly noncontroversial that the ready availability of quote information from exchanges and dealer markets facilitates competition between trading venues or dealers.<sup>31</sup>

Yet, the trading process contains myriad other pieces of information that may also hold relevance for market performance. The identity of traders, for example, is not generally reported, although this could be of great interest to others in the market. Traders' strategies or the research on which they base their trading decisions also need not be disclosed. Similarly, the scale and scope of unexecuted orders is not generally publicly known, nor is the type of order (that is, whether it is a limit or a market order) necessarily revealed. Thus, transparency as currently exhibited by (and required of) U.S. markets is not a universal condition; only certain types of information have been deemed to fit this requirement.<sup>32</sup>

That some information is not transparent reflects the reality that information, *per se*, has value, both to the market as a whole and to the individual participants. Knowing that a large institutional trader may be buying or sell-

<sup>29</sup> Centralized exchanges are required to report all such information immediately. For a dispersed dealer market such as NASDAQ, the rules are somewhat different. Prior to 1982, there were no explicit reporting requirements. As of June 1, 1982, the SEC required that NASDAQ report all equity trades within 90 seconds of occurring.

<sup>30</sup> For discussion of different trading rules in London see Gordon Gemmill, *Transparency and Liquidity: A Study of Block Trades on the London Stock Exchange under Different Publication Rules*, 51 *J. Fin.* 1765 (1996). For a discussion of trading rules on Japanese markets see Richard Lindsay & Ule Schaade, *Specialist versus Saitori: Market Making in New York and Tokyo* (Working paper, Univ. California, Berkeley, 1993).

<sup>31</sup> Robert Bloomfield & Maureen O'Hara, *Market Transparency: Who Wins and Who Loses?* *Rev. Fin. Stud.* (in press), examine who gains and loses from the transparency of trade and quote information. They demonstrate that in a dealer market requiring trade transparency increases the informational efficiency of the market and reduces the gains of informed traders. But such transparency may also increase spreads by reducing the need for dealers to compete for trades to learn from trade information. Conversely, they find that quote transparency has little effect on the market. For an alternative view, however, see J. Harold Mulherin, *Market Transparency: Pros, Cons, and Property Rights*, 5 *J. Applied Corp. Fin.* 94 (1993).

<sup>32</sup> This distinction is epitomized by the transparency rules regarding quotes and orders. Market maker quotes must be displayed, while customer orders need not be. This reflects both the distinction between orders and quotes as well as the different economic roles played by customers and dealers. See also *Order Execution Obligations*, Exchange Act Release 34-37,619A, 61 *Fed. Reg.* 48,290 (1996).



ing may allow other market participants to free ride on the information-gathering activities of those traders, thus imposing an externality on the market. Indeed, even apart from the identity of a trader, the very knowledge that a large trade will shortly occur is valuable information in part because it may provide information on future stock price movements.<sup>33</sup> The SEC's prohibitions against front running (or trading in advance of a customer order) reflect the importance of these issues. These rules also demonstrate that transparency is not a universal condition and, indeed, is undesirable in certain contexts. The objective of transparency is thus equivocal. Without transparency of at least some information, markets are likely to be inefficient and unfair. Yet, requiring transparency of all information penalizes traders who either need or are willing to provide liquidity and may reduce the efficiency of the market by reducing incentives for information gathering.

A further complication is introduced by traders choosing how and where to trade. New technologies, such as OptiMark's trading system, offer innovative ways for traders to depict complex trading strategies. In particular, OptiMark traders submit expressions of trading interest in the form of a "satisfaction profile" that conveys the user's willingness to trade at each point on a price-size matrix.<sup>34</sup> Requiring transparency of this entire matrix would seem unworkable if not also undesirable. The issue of trade location is also important. To the extent that transparency enhances market performance, traders will naturally gravitate to such trading locales. Bhagwan Chowdhry and Vikram Nanda argue that this dynamic will result in markets voluntarily producing transparency to enhance their competitive position. Conversely, if transparency rules impose undue costs, then traders or some particular group of traders will opt for other, less transparent locales or will simply not trade at all.<sup>35</sup>

This competitive aspect of transparency raises two issues of importance for regulators. First, if markets can compete over transparency, then there is the prospect that less transparent markets could attract greater order flow and ultimately outcompete more transparent regimes. This issue is addressed in work by Robert Bloomfield and Maureen O'Hara (1997) who use an experimental markets approach to examine intermarket competition.

<sup>33</sup> For discussion of these effects see Kenneth Burdett & Maureen O'Hara, *Building Blocks: An Introduction to Block Trading*, 11 *J. Banking & Fin.* 193 (1987).

<sup>34</sup> Securities and Exchange Commission, *Filing of Proposed Rule Change by Pacific Exchange Inc., Re: Optimark*, SEC Release No. 34-38,740, 1997 SEC LEXIS 1272 (June 13, 1997), at 11.

<sup>35</sup> See Ananth Madhavan, *Consolidation, Fragmentation, and the Disclosure of Trading Information*, 8 *Rev. Fin. Stud.* 579 (1995); and Bhagwan Chowdhry & Vikram Nanda, *Multimarket Trading and Market Liquidity*, 4 *Rev. Fin. Stud.* 483 (1991).

Examining the effects of trade disclosure transparency, they find that less transparent markets do have advantages over more competitive markets and can outcompete in some cases, in the sense of earning higher profits for market makers in those markets. They also find, however, that while dealers gravitate to less transparent markets, all markets do not become nontransparent, in large part because transparent markets provide benefits not found in less transparent settings. This suggests that transparency rules need not always be uniform; a variety of markets can coexist if each meets the particular needs of some traders.

Second, the ability of traders to choose their trading strategies and locales implies limits on what can be required by regulators. Requiring transparency of orders, for example, may be infeasible because traders will simply refuse to submit anything other than small market orders or will shift trading to nonregulated markets, either within the United States or overseas. Thus, natural limits arise with respect to transparency rules, reflecting that traders will always opt to trade where their trading costs are lowest.

#### *D. Investor Access to the Best Markets*

This notion of trader choice underlies another objective of Congress, that of providing investor access to the best markets. Certainly, the fairness arguments developed earlier in this analysis require that markets be accessible to all traders. The exact meaning and scope of access that are economically desirable, however, are not things obviously definable in regulation. In particular, the SEC has raised concerns that the private nature of ATSS may preclude some traders from being active participants.

In specifying this goal for the National Market System (NMS), the intent of Congress was presumably to give each trader the ability to obtain best execution by transacting his or her order at the best prevailing price. Indeed, the recent SEC order-handling rules, which now require market makers to display limit orders that better the best quote and to update their own quotes if they are willing to trade at better prices elsewhere, are clearly designed to improve compliance with this objective. Under these current regulations, broker-dealers or customers can submit orders to an ATS via SelectNet, the electronic trading system used to handle orders on the NASDAQ. Thus, at present, every trader has the opportunity to access and trade in the best market, even if that market is a private ATS.

Traders do not currently have the right to view the order information in those systems. In particular, ATSS operate by aggregating and displaying customer orders. Because revealing one's trading intentions may increase trading costs, traders must be given some inducement to show those intentions to others. For institutional traders, such as those typically using ATSS,

this inducement is the ability to view the trading intentions of other traders. This inducement is presumably greater as more and more customer orders are displayed in the system, but it is reduced to the extent that participants free ride on the information in those orders by trading in advance of outstanding orders.

This suggests that while it remains in the best interests of both ATSS and overall market performance to have wide customer participation, it is also inimical to the interests of both to allow free riding by those who contribute little if anything to the shared value of information. Thus, while it is consistent with the goals of the NMS to argue that traders be able to execute trades on ATSS, the larger claim that all traders be given access to the underlying order information would direct resources away from trading systems and cause an inefficient allocation and investment of resources.<sup>36</sup>

#### *E. The Ability to Trade without a Dealer*

A final goal delimited by Congress is the ability of traders to execute trades without the direct participation of a dealer. This goal conforms with the arguments developed in the last section that regulation should allow traders to contract for the body of execution services they desire and not simply those dictated by regulatory or market fiat. Thus, a trader who wishes to provide liquidity to the market should be free to do so by posting a limit order, an ability now greatly enhanced by the development of ATSS. Indeed, there is little dissension from the view that ATSS have prospered largely because they provide customers a means to trade with each other and without dealer intervention. This suggests that the continued development of ATSS will only enhance the ability of the market system to meet this regulatory goal.

### IV. STRATEGIES FOR ATTAINING REGULATORY OBJECTIVES

In the previous section, we outlined the goals of regulation and how these require the careful balancing of often competing objectives. In this section of the article, we turn to the more immediate issue of how to regulate markets and ATSS. In particular, we develop in more detail an overall approach to the regulation of financial market structure.

Our thesis is that customers seeking to consummate transactions in financial markets choose the bundle of execution services that best meets their

<sup>36</sup> Our argument here is that restriction of access may be necessary to preserve the essential function of the trading system. This is not to argue, however, that access restrictions are always innocuous. For example, restrictions designed solely for anticompetitive grounds are not consistent with the goal of the NMS.

needs. Two assumptions are critical to this analysis. First, of course, is the basic notion that suppliers of execution services in the current competitive environment cannot survive unless they offer a mix of quality and prices for their services that generate sufficient customer order flow to permit their survival. The incentive to innovate and to improve the efficiency of execution services stems from the existence of these competitive pressures. The second assumption that underpins our analysis is that the products offered by firms in this environment are designed to appeal to customers. In other words, providers of execution services have incentives to experiment with various bundles of services in order to better serve their customers and thereby attract order flow. As the SEC itself recognizes, “[I]t is as important today as it was in 1975 to cultivate an atmosphere in which innovation is welcome and possible.”<sup>37</sup> This underscores the notion that those regulations that distort customer choices will consequently decrease innovation.

In the following two sections of this article, we review the legitimate economic functions provided by exchanges, broker-dealers, and ATSS. Each of these forms of business organization is designed to appeal to a particular clientele by addressing specific business problems faced by its clientele. We conclude that, with respect to ATSS, the important role in the capital markets played by these institutions is threatened by regulatory approaches that derogate the contributions to efficiency provided by these institutions.

The distinctive features of stock exchanges, broker-dealer firms, and ATSS should be stressed. Even within these categories, there are important distinctions. Thus, for example, the package of services offered by Tradebook differs in certain important ways from the package of services marketed by rival ATSS such as Island Trading System. Similarly, the services offered by a broker-dealer like Salomon Brothers differs in obvious and important ways from the services offered by Quick & Reilly. At the same time, we also recognize the existence of robust competition both within and across the business categories that we describe. The NYSE competes in important ways, not only with the NASD and the Frankfurt Stock Exchange, but also with Goldman Sachs and Instinet. And Instinet and POSIT compete with broker-dealers and organized stock exchanges as well as with other ATSS.

These observations lead us to conclude that the only sensible way to regulate exchanges, broker-dealer firms, and ATSS is on the basis of the economic functions they provide. This “functional approach” to regulation provides three basic economic benefits. First, regulating on the basis of function, rather than on the basis of some arbitrary technical categorization,

<sup>37</sup> 62 Fed. Reg. 30,512 (1997).

allows firms to select the precise services they wish to offer. Firms will not be forced, because they arbitrarily have been categorized as an exchange, to offer a bundle of services that their clients do not want to pay for. Second, this functional approach best serves regulatory objectives because it ensures that firms offering the same bundle of services will be regulated the same way. It makes no sense for two firms that offer the same service to clients to be subject to different regulatory burdens merely because one of these firms has been classified as an “exchange” while the other has been classified as a “broker-dealer.” By making competitors bear equal regulatory burdens, a functional approach will prevent circumvention techniques of category shifting that allow some firms to use regulatory burdens to gain an artificial competitive advantage. The deadweight economic losses associated with costs incurred to obtain a regulatory “label” will thus be subsequently diminished. Finally, a functional approach is the approach that best promotes innovation because it provides competitors with the maximum amount of flexibility consistent with regulatory objectives.

#### A. *Organized Stock Exchanges*

Despite general acceptance that well-developed secondary trading markets are extremely important to the flourishing of an economy,<sup>38</sup> the role of organized stock exchanges in an economy is poorly understood. The Securities Exchange Act of 1934 defined an organized stock exchange as “any organization, association, or group of persons . . . which constitutes, maintains, or provides a market place or facilities for bringing together purchasers and sellers of securities or for otherwise performing with respect to securities the functions commonly performed by a stock exchange as that term is generally understood, and includes the market place and the market facilities maintained by such exchange.”<sup>39</sup>

The SEC’s current interpretation of this definition is contained in the so-called Delta Release, which defines the term “exchange” to include only those entities that enhance liquidity in traditional ways through market makers, specialists, or a single-price auction structure.<sup>40</sup> Thus, as Judge

<sup>38</sup> Robust secondary trading markets not only provide investors with liquidity, they also make possible the development of venture capital markets by providing venture capitalists with the all-important “market-out” for their investments.

<sup>39</sup> 15 U.S.C. § 78c(a)(1).

<sup>40</sup> See note 26 *supra*. The SEC has proposed a new Rule 3b-12 of the Exchange Act, which would revise the current interpretation of the word “exchange.” The proposed interpretation would define an exchange to be “an organization or group of persons that (1) consolidates orders of multiple parties; and (2) sets non-discretionary material conditions (whether by providing a trading facility or by setting rules) under which parties entering such orders agree to the terms of a trade.” See SEC Release No. 34-39,884 (April 1998), 63 Fed. Reg. 23,507 (1998).

Richard Posner observed in *Board of Trade of the City of Chicago v. Securities and Exchange Commission*,<sup>41</sup> exchanges provide institutional features, such as specialists or market makers, “who enhance the liquidity of an exchange by using their own capital to trade against the market when the trading is light, in order to buffer price swings due to the fewness of offers rather than to changes in underlying market values.”<sup>42</sup>

In other words, the central (but by no means the only) problem that exchanges are trying to solve for their clients is the provision of secondary market liquidity. Exchanges solve this problem for customers by offering them (for a fee) the advantage of a continuous, two-way market for the shares listed on the exchange. As noted above, the product offered by organized exchanges, which is called a “listing,” can be unbundled into four component parts. In addition to liquidity, exchanges offer monitoring of exchange trading; standard-form, off-the-rack rules to reduce transactions costs for investors; and a signaling function that serves to inform investors that the issuing companies’ stock is of high quality. Over time, the environment in which exchanges operate has become increasingly competitive. This is true for every aspect of the services offered by exchanges. The increasing ability of over-the-counter markets, ATSS, and broker-dealer firms to fulfill customers’ buy and sell orders completely in-house all compete with the liquidity services once offered exclusively by exchanges.

The same holds true for the monitoring function provided historically by exchanges. Investors desire protection from insider trading and share price manipulation by market professionals. For example, investors often give orders to buy or sell at the market price. Such orders provide ample opportunity for abuse in volatile trading markets, because market professionals can trade stock at old prices under rapidly changing market conditions. Thus, if prices are declining rapidly, by executing a market buy order at an outdated, high price, a broker can defraud a customer. Rational investors will discount the price they are willing to pay for shares by an amount sufficient to compensate themselves for expected future manipulation and insider trading. Thus, issuing firms have strong incentives to list on exchanges to the extent that such listings help issuers make credible commitments to investors that insider trading and manipulation will be eliminated.<sup>43</sup>

Consistent with this analysis, exchanges such as the NYSE have sought clients (that is, listings) on the grounds that their fixed locations facilitate monitoring of secondary market trading. Unfortunately, exchanges have run into two competitive problems in connection with their attempts to compete

<sup>41</sup> 923 F.2d 1270, 1272 (1991).

<sup>42</sup> *Id.*

<sup>43</sup> Macey & Kanda, *supra* note 7, at 1021–22.

along the monitoring vector. First, it turns out that exchange monitoring is difficult to monitor. This became evident during the October 1987 market break when some exchange specialists were found to have traded in ways inconsistent with the public interest.<sup>44</sup> The more serious competitive problem for the NYSE is that rival markets, particularly ATs, have developed such sophisticated monitoring systems that, as the SEC has observed, "it is unclear that over-the-counter transactions are intrinsically more difficult to monitor than exchange transactions."<sup>45</sup>

This enhanced ability to monitor is a direct result of improved technology. Since ATs generally are computer based, surveillance is possible by supplying regulatory organizations with access to the AT's computer facilities. Currently, all transactions executed in the over-the-counter markets must be reported through the NASD's transaction reporting system, creating an over-the-counter markets audit trail of the same quality that the NYSE is able to produce. And as technology improves, so, too, will monitoring capabilities. The proposed Order Audit Trail (OATS) system for NASDAQ would monitor orders from submission to execution (or cancellation), thus dramatically improving the market's monitoring capabilities. While these developments may be good for market participants, they have hurt the NYSE by eliminating the NYSE's historic "franchise" in the field of monitoring services.

The same analysis applies to the service of providing off-the-rack rules that exchanges historically have provided. The legal rules that exchanges provided to customers are now routinely provided by state legislatures, by independent organizations such as the American Law Institute and the American Bar Association's Committee on Corporate Laws and Committee on Corporate Governance, and by the SEC. For example, the NYSE had a policy of refusing to list the securities of firms that did not adhere to its rule forbidding firms from issuing more than one class of common stock with voting privileges. Several years ago, when several NYSE listed firms moved to issue additional classes of common shares with voting privileges,

<sup>44</sup> For example, in *Wesley v. Spear, Leeds, Kellogg*, 711 F. Supp. 713 (E.D.N.Y. 1989), the specialist firm responsible for J. P. Morgan stock executed a market buy order from a customer at a price of \$47.00 a share by selling J. P. Morgan stock from its own inventory at a time when J. P. Morgan stock was dropping rapidly and the actual market price for the stock was much lower. The specialist in this case was able to do this because of the ability of specialists under exchange rules to set the opening market (bid-and-asked quotations) for the stocks in which they specialize. The specialist simply set an artificially high price for the stock at the opening and then reduced its inventory by executing market buy orders at those prices. In this case, the price of J. P. Morgan stock had dropped from \$41.62 per share to \$21.75 per share on October 19. The specialist opened the market for J. P. Morgan stock on the morning of October 20 at \$47.00 per share as an offered price.

<sup>45</sup> Securities Exchange Act Release No. 11,942, 41 Fed. Reg. 4507, 4512 (1976).

the NYSE expressed reluctance in enforcing its long-standing rule until, finally, the SEC adopted a new Rule 19c-4, which nullified certain aspects of the NYSE rule and, more importantly, extended the application of other aspects of the rule to firms traded by the NASD and listed on the American Stock Exchange.<sup>46</sup> While the D.C. Circuit invalidated the SEC rule as beyond its 19(c) authority,<sup>47</sup> both the NYSE and the NASDAQ elected to retain one-share, one-vote rules adopted initially to comply with the ill-fated Rule 19c-4.<sup>48</sup>

In other words, over time the NYSE's role as an independent source of legal rules for listed firms has declined significantly. Probably the most important sources of this decline in market position for the NYSE are the securities laws themselves. As George Benston and George Stigler pointed out, the Securities Act of 1933 and the Securities Exchange Act of 1934 simply codified existing NYSE rules, customs, and practices.<sup>49</sup> The SEC has thus effectively displaced the NYSE as a source of rules of corporate governance, depriving that exchange of an important source of demand for its services.

Historically, perhaps the most important element in the bundle of services offered to firms on listing on the NYSE was the reputational capital associated with listing. Even today, listing on the NYSE confers prestige on the listing firms and enhances their reputation. Often, firms that are traded in the secondary capital markets are relatively unknown to the investing public. This lack of name recognition creates a problem for investors in such firms as well as for the issuers themselves, because people are reluctant to buy stock in firms they do not recognize. Traditionally, organized exchanges helped issuers and investors overcome this information problem by serving as "reputational intermediaries" for listing firms.<sup>50</sup> Listing on an organized exchange conveys to investors the information that a firm has a substantial market presence (because it meets listing criteria), that the firm has withstood the exchange's screening function, and finally, that the firm has agreed to abide by the exchange's rules.

In this aspect of its operations, the NYSE competes with law firms, investment banks, and accounting firms who also serve as reputational inter-

<sup>46</sup> 17 C.F.R. § 240.19c-4 (1989); see also Jeffrey N. Gordon, *Ties That Bond: Dual Class Common Stock and the Problem of Shareholder Choice*, 76 Cal. L. Rev. 1 (1988).

<sup>47</sup> *Business Roundtable v. SEC*, 905 F.2d 406 (D.C. Cir. 1990).

<sup>48</sup> See, for example, NYSE Listed Company Manual 313.00 (1990).

<sup>49</sup> George J. Benston, *Required Disclosure and the Stock Market: An Evaluation of the Securities Exchange Act of 1934*, 64 Am. Econ. Rev. 132, 133 (1973); George J. Stigler, *Public Regulation of the Securities Markets*, 37 J. Bus. 117 (1964).

<sup>50</sup> Ronald J. Gilson & Reinier H. Kraakman, *The Mechanisms of Market Efficiency*, 70 Va. L. Rev. 549, 618-21 (1984).



mediaries for companies: “In essence, the investment banker (underwriting an initial public offering) rents the issuer its reputation. The investment banker represents to the market (to whom *it* and not the issuer, sells the security) that it has evaluated the issuer’s product and good faith and that it is prepared to stake its reputation on the value of [the securities the company is selling]. Moreover because the investment banker, unlike the issuer, is certain to be a ‘repeat player’ in the capital markets, there are no final period problems to dampen the signal of value.”<sup>51</sup> Even the antifraud provisions of the securities laws provide stiff competition for the exchanges as providers of reputational capital to listing firms. Investors are less willing to pay for assurances of quality when they know they can recover damages for misstatements or material omissions by corporate management.<sup>52</sup>

Finally, broker-dealer firms also provide competition for the NYSE’s reputational services by holding themselves out to investors as experts at evaluating investments. And, unlike the exchanges, full-service broker-dealer firms provide a product that is custom-tailored to clients. A listing on the NYSE signals to investors only that a particular firm is big enough and financially sound enough to qualify for a listing on that exchange. By contrast, when a broker recommends a firm to a customer, that firm must not only be financially sound but also be the sort of investment that is suitable to the particular needs of the investor.

Thus, close substitutes have emerged not only for the liquidity function provided by the exchanges but also for the other aspects of the NYSE’s services, such as monitoring, the provision of off-the-rack rules, and the provision of reputational capital to listing firms. The NYSE has responded to this competition by improving its technology in order to improve the quality of its listing services and, most significantly, by focusing its marketing efforts internationally, where securities laws are weaker and where there is less competition for the services offered by an organized exchange.

The regulation of exchanges fits rather well with their business. For example, the public-notice-and-comment process for exchange rule modification protects the public interest because members of the public need to be able to rely on exchange rules being constant and well known. The same analysis applies to the rules in the Exchange Act regarding admission of broker-dealers, member representation in administration, and allocation of fees.<sup>53</sup> These rules are in keeping with the quasi-public nature of the services that exchanges choose to offer. For example, the exchanges are obligated by law to create rules to prevent fraudulent practices and to promote

<sup>51</sup> *Id.*

<sup>52</sup> See *Basic, Inc. v. Levinson*, 485 U.S. 224 (1988).

<sup>53</sup> Securities Exchange Act of 1934 § 6(b)(2), (3), and (4).

fair trade and to ensure orderly markets.<sup>54</sup> These rules help the exchanges make credible commitments to the trading public that they will remain acceptable forums for trading. Indeed, exchanges are self-regulatory organizations because maintaining the value of listing gives them such a strong self-interest in policing themselves that it makes eminent sense to transfer to them the bulk of their regulation and enforcement.

More importantly, exchanges list securities for trading. Exchanges list securities for the reasons articulated above, that is, because the listing function provides a signaling function to market participants. Other sorts of firms, such as broker-dealers and ATSS, do not list securities for trading. Classifying ATSS as exchanges would require ATSS to list securities and would prohibit such systems from brokering customer trades in securities that are not listed on an exchange or traded on the NASDAQ National Market. Because exchanges are in the business of offering listing services as part of the signaling function they provide for client (listed) firms, while ATSS are not, such a categorization is illogical.

The point here is that the rules governing the exchanges are tailored to meet the strategic plans and structural design of firms that choose to be exchanges. It makes no sense to shoehorn other firms into an organizational design that they do not want. It makes even less sense to require competitors to offer services that they and their customers do not want under the guise of creating a level playing field. After all, there is nothing unique about the bundle of services offered by the NYSE or by other exchanges. Indeed, close substitutes for these services abound, as does vigorous competition. Issuing firms and investors do not lack for any of the services offered by the exchange. There is no reason to issue regulations that require other marketplace participants, such as ATSS, to offer services that exchanges and other institutions choose to offer. If exchanges should decide that there is no market demand for the bundle of services they offer, they should be able to change the mix. When they do, their regulatory burden should be adjusted to conform to the new product. This flexibility is necessary for specialization efforts aimed at meeting specific market demands. When regulation forces resources to be allocated beyond those demands, inefficiencies result.

### *B. Broker-Dealer Firms*

The legal definition of a broker is “any person engaged in the business of effecting transactions in securities for the account of others,”<sup>55</sup> while a

<sup>54</sup> *Id.*

<sup>55</sup> Securities Exchange Act of 1934 § 3(a)(4).

dealer is “any person engaged in the business of buying or selling securities for his own account, through a broker or otherwise” (except when such purchases are not as a part of a regular business).<sup>56</sup> In other words, a dealer “holds himself out as one engaged in buying and selling securities at a regular place of business.”<sup>57</sup> By contrast, a broker “effects no transactions” but, rather, “merely brings buyer and seller together.”<sup>58</sup>

While brokers and dealers perform different functions, those two functions often are combined within a single person or firm. In fact, there is such a close identity of brokers and dealers in U.S. capital markets that the Securities Act of 1933 collapsed the definitions of broker and dealer into a single definition.<sup>59</sup> This “over-economy of language was corrected in the 1934 Act”<sup>60</sup> to conform to the common understanding that a dealer is a principal while a broker is an agent.

The economic functions of brokers and dealers are distinct. Dealers, in buying and selling securities, provide an arbitrage function. They profit by finding trading opportunities in mispriced securities and then buy and sell these securities as principal. Dealers, like exchanges, provide a liquidity function, by acting as market makers, that is, making a two-way market in a particular security. This function is not provided as a public service but, rather, as a mechanism by which the dealer can enhance its arbitrage function by gaining valuable information about the supply and demand curves for the stock she is trading and by profiting on the spread between the bid and the offered prices of the security. But regardless of the dealer’s motivation for serving as a market maker, the provision of this service provides liquidity to the market and thus represents direct competition for the liquidity services offered by exchange specialists.

By contrast, brokers provide a distribution function. They act as agents for customers. Sometimes brokers tailor the supply of securities in the marketplace to the investment needs of their clients. Other brokers act for more sophisticated customers who are able to identify for themselves the securities they want to purchase and sell. These brokers provide a pure execution function.

Despite the legal and analytical distinction between brokers and dealers,

<sup>56</sup> Securities Exchange Act of 1934 § 3(a)(5).

<sup>57</sup> Louis Loss, *Fundamentals of Securities Regulation* 680 (1983).

<sup>58</sup> *Id.* at 682.

<sup>59</sup> A “dealer” is defined in the Securities Act of 1933 as “any person who engages for all or part of his time, directly or indirectly, as agent, broker, or principal, in the business of offering, buying, selling, or otherwise dealing or trading in securities issued by another person.” Securities Act of 1933 § 2(12).

<sup>60</sup> Loss, *supra* note 56, at 295.

it is common for individuals to serve simultaneously as brokers who advise clients about transactions in securities and as dealers who take positions in the same securities that they are recommending as broker. This dual relationship presents a clear conflict of interest. The obligation of the broker to give impartial investment advice to her customers is compromised by the fact that the broker-dealer has a strong incentive to find buyers for the securities in inventory that are overpriced and sellers for securities that are underpriced by the market. In other words, dealers have an incentive to sell the weak inventories that they have accumulated as brokers and to purchase the strong inventories that their clients may own. Regulation attempts to deal with this conflict by prohibiting broker-dealers from trading ahead of a customer's order, free riding, and withholding and maintaining accounts for employees of other broker-dealers without notifying such broker-dealers. But these regulations do not solve all of the problems. This conflict of interest causes some customers to refrain from dealing with firms that act as both brokers and dealers because they do not want to disclose their trades to the dealers at the firms at which they place their orders.

For example, clients sometimes would rather place an order with Instinet instead of with a firm such as Goldman Sachs that serves as both broker and dealer because customers, at times, do not want the Goldman Sachs trading desk to see that order. Similarly, in March and April of 1997, when OptiMark held its first three user meetings in Durango, Colorado, and New York, one of the primary purposes of this meeting was to meet with veteran traders to present OptiMark's claim of total confidentiality.<sup>61</sup>

Indeed, this promise of confidentiality is the reason why clients sometimes choose to deal with ATSS rather than with traditional firms that serve as both brokers and as dealers. In dealing with ATSS, customers sacrifice immediate execution of orders, as well as a certain amount of flexibility, in order to obtain trading anonymity. In turn, this anonymity permits customers to protect their property rights in information. In this context, we find it significant that every ATS in place or in development attempts to protect traders' property rights in information by promising anonymity. This includes Bloomberg's Tradebook, Big J Securities/Datek Securities Corporation's Island Trading System, Townsend Analytics/Terra Nova Trading/Southwest Securities' Archipelago System, Tradepoint Financial Networks PLC/London Clearing House's Tradepoint Executive Exchange, ITG's POSIT, AZX's Arizona Stock Exchange, and OptiMark Technologies Inc., Pacific Coast Exchange's OptiMark System for Equities.

The conflict of interest that exists between brokers and dealers can be

<sup>61</sup> Jed Horowitz, *OptiMark Drums for Support of New Equity Trading System*, *Investment Dealer's Dig.*, April 7, 1997, at 14.

mitigated to some extent by disclosure rules, but the disclosure obligations of broker-dealer firms are minimal. Broker-dealers must disclose whether or not they are acting as a market maker in a particular security, but they need not disclose their own views about the future price trajectory of the security. Nor do differential commissions (the payment by a brokerage firm of a higher commission for the sales of certain securities than for others) need to be disclosed. Clearly there are costs and benefits to having the functions of broker and dealer performed by the same persons and firms.

Of course, there is no requirement that broker-dealer firms disclose orders. Even more significant, there is no requirement that broker-dealer firms maintain a Chinese wall between their brokerage functions and their dealer functions. Nor is there any requirement that broker-dealer firms disclose to the market the nature and size of their customer orders. Thus, any requirement that ATSs disclose their customer orders would place such systems at a tremendous disadvantage relative to the broker-dealer firms with whom they compete for order flow. Moreover, from a competitive perspective, requiring ATSs to reveal customers' orders would constitute a breach of the fiduciary duty of trust and confidence that customers place in the fiduciaries who manage these systems.

Finally, and most importantly, requiring ATSs to disclose customer orders also would deprive customers of the ability to use ATSs to avoid the conflict-of-interest problems that plague firms serving simultaneously as brokers and dealers. Customers dealing with broker-dealer firms need only disclose their positions and trading strategy to one dealer, but requiring the disclosure of ATS orders would require those customers to disclose their trading strategies to all market participants. This would seriously undermine the ability of these market participants to safeguard their property rights in the information and trading strategies they have developed.

### *C. Alternative Trading Systems*

As noted in the previous subsection, ATSs offer a trade-execution service that exchanges and broker-dealer firms do not. In a nutshell, by acting exclusively as agent for their customers, ATSs solve the conflict-of-interest problem that exists between customers and broker-dealer firms. However, it must be emphasized that this service is not an unalloyed benefit. Rather, utilizing an ATS involves a trade-off; customers forgo the liquidity services provided by exchanges and by dealers in order to obtain anonymity.

No two ATSs are exactly alike. But despite the differences among various firms offering these trading services, these systems share certain common features. In particular, ATSs are real-time (often international) computerized systems for providing information and market access to customers.

Customers trade on ATSS by entering orders directly onto an electronic “order book.” Order matching is automatic if bid-and-offer prices agree. Otherwise, customers using certain ATSS can trade by engaging in anonymous negotiation via the quote screen.<sup>62</sup>

It is difficult to generalize about ATSS because they are changing all the time. Moreover, the sheer number and complexity of these systems makes generalizations difficult. More than 140 broker-dealer firms have informed the SEC that they operate some kind of ATSS. Some of these systems are run completely in-house, while others are available for customers or for market participants generally.<sup>63</sup> According to the SEC’s Division of Market Regulation, ATSS currently account for about 20 percent of the orders in NASDAQ securities and about 4 percent of the orders in NYSE-listed stocks. These market share figures have increased from the 13 percent of NASDAQ orders and the 1.4 percent of NYSE orders that ATSS accounted for as recently as 1994.<sup>64</sup>

Although precise market share figures are not available, it appears that one firm, Instinet, dominates the ATSS market. The economic explanation for the rise of ATSS generally and for Instinet’s success in particular is due to the importance of market impact costs for wholesale traders. Specifically, the effect of a block trade on the value of the underlying security may have far greater significance on overall execution costs than does the particular price at which it transacts. Moreover, large trades typically involve negotiated prices, and publicly quoted spreads are far less relevant in the context of block trades than in the context of small-block trades.

Institutional traders who transact on Instinet and similar types of ATSS bring information to the market when they bring trades to the market. These traders prefer to transact on an ATSS because—as large-block traders—the liquidity of other markets is less valuable to them, and the anonymity and automation of the ATSS allows them greater control over their orders. As we noted in the previous section, this allows them to reduce the extent to which dealers and other market participants can free ride on the information that these traders bring to the market.

Extant empirical evidence is consistent with our explanation of the success of ATSS. For example, such systems trade a much larger percentage

<sup>62</sup> This description applies to the trading services offered by Instinet, Island, and Bloomberg Tradebook. POSIT and other so-called crossing systems allow participants to enter unpriced orders, which are then executed with matching orders at a single price, which is obtained with reference to the price generated in the primary public market for the stock. AZX is a “single-price” auction system that allows customers to enter orders, which are then matched with other orders and then executed at a single price.

<sup>63</sup> 62 Fed. Reg. 30,489 n.14 (1997).

<sup>64</sup> *Id.*

of NASDAQ stocks than NYSE stocks, consistent with the ATSS acting as solution to the broker-dealer conflict. And, as we would predict, large blocks traded on NASDAQ display larger temporary price effects than do large blocks traded on the NYSE.<sup>65</sup> Thus, it stands to reason that large-block traders of NASDAQ securities are more likely to turn to ATSS because the temporary price effects of trading on that market appear to be more damaging. Indeed, the reason people utilize agents in a wide variety of market settings, including real estate, art, oil tankers, as well as securities, is to obtain the anonymity necessary to reduce the market impact associated with transacting.

The anonymity offered by ATSS is thus a way for traders to protect their property rights in the information they are bringing to the market. For example, it is very unlikely that Disney Corporation would have been able to purchase the land around Orlando, Florida, where Disney World now stands, if that corporation had not been able to use agents to protect its anonymity while making purchases. Large-block traders on ATSS make identical efforts to protect their anonymity. For such traders, ATSS offer an attractive substitute for broker-dealer firms, since the brokers at broker-dealer firms often cannot credibly commit to keeping large-block traders' orders confidential from their dealer desks. Trading by these dealer desks can magnify the market impact of the block traders' trades and orders. In particular, crossing networks such as those provided by POSIT never have a market impact since they clear at a predetermined price. But here anonymity is also important in order to prevent trading rivals from free riding on the information contained in an order.

Disclosure obligations would reduce market liquidity by reducing both trading volume and investors' incentives to engage in search. Institutional investors who think they must disclose information, including trading interest, to potential counterparties and other market participants, will decline to make the investments in information necessary for them to place such orders. This, in turn, will lessen liquidity by drying up trading volume.

Policy makers in this area should be careful to distinguish between access to information and access to trading opportunities. There is no need to gain access to ATSS to have access to trading opportunities. Fair trading opportunities for customers who wish to transact at market prices are currently available to all traders via the exchanges and broker-dealer firms. The issue over access is not about missed trading opportunities, but, rather, it is

<sup>65</sup> Ananth Madhavan & Minder Cheng, *The Upstairs Market for Large-Bloc Transactions: Analysis and Measurement of Price Effects*, 10 *Rev. Fin. Stud.* 175 (1997). See also Louis K. C. Chan & Josef Lakonishok, *Institutional Trade and Intra-day Stock Price Behavior*, 33 *J. Fin. Econ.* 173 (1993).

about access to information that other traders wish to manage confidentially so as to lower the market impact of their orders. There is a clear legal right to best execution protected by law. By contrast, there is no legal right or public policy justification for giving counterparties access to the valuable information contained in proprietary order flow and quotation information.<sup>66</sup>

In the absence of external effect on third parties, proprietary trading systems, like firms generally in a free-market economy, should be able to transact with whomever they choose. Here proprietary trading systems internalize the costs and the benefits associated with denying access to certain traders. Proprietary trading systems lose potential trading volume when they deny access. These systems reduce problems associated with clearing and trade recognition by regulating access. Most of all, as discussed above, proprietary trading systems are able to permit their clients to protect their property rights in information by regulating access.<sup>67</sup>

Furthermore, as noted earlier, ATSs (including Bloomberg Tradebook, Instinet, Island, and Terra Nova) provide public access to their systems to all broker-dealers, whether they are subscribers or not, via SelectNet.<sup>68</sup> For example, limit orders for NASDAQ system securities placed on ATSs by market makers are available in the national market system for those securities. Thus, all orders placed by a NASDAQ market maker into an ATS are reflected in the best quote shown on screens in that security. To require retail (non-broker-dealer) customers, including institutional investors, who

<sup>66</sup> Economic analysis suggests that the services of proprietary trading systems are currently utilized by large institutional investors and professional stock traders because these are the groups that value anonymity and fear market impact the most. By contrast, smaller traders place a higher value on liquidity because they do not need to worry about market impact, because their trades do not have market impact. These small traders value quick and reliable execution at low commissions that, for them, can better be achieved on exchanges, particularly those that offer price improvement programs. The desire for access to proprietary trading systems expressed by some small traders may reflect an effort to free ride on the information provided there by institutional traders of such systems, rather than an attempt to minimize execution costs for their own trading needs.

<sup>67</sup> It is noteworthy that both stock exchanges and ATSs restrict access in order to permit themselves to customize better the mix of services they are able to offer. Stock exchanges not only restrict trading access both by restricting listing via listing standards and by restricting access to the trading floor to certain firms. In particular, the NYSE permits only a single specialist for each listed stock. The SEC allows exchanges to impose these restrictions because the exchanges could not offer their desired product mix without the ability to control access along both of these vectors. Exchanges would not be able to lend reputational capital to firms unless the quality level was provided via listing requirements, and they would not be able to monitor dispute resolution unless they could control access to the trading floor. ATSs do not lend reputational capital to firms, but they do need to control access to protect their customers' property rights in the information they bring to the system. Thus, the desire to control access here is neither unusual nor nefarious.

<sup>68</sup> SEC Rule 111Ac1-1(c)(5)(ii); Securities Exchange Act Release No. 37,619A (August 28, 1996), 62 Fed. Reg. 48,290 (September 6, 1996).



transact on ATSS to expose their orders in the name of access would cause retail orders placed with ATSS to be treated differently than retail orders placed with broker-dealer firms.

Having established the economic context in which exchanges, broker-dealers, and ATSS operate, the next section discusses the implications of this context for the regulation of exchanges and ATSS.

#### V. POLICY ALTERNATIVES FOR THE SECURITIES AND EXCHANGE COMMISSION

What then does this suggest for the regulation of exchanges and ATSS? We recommend that the SEC pursue a functional approach to regulation in which ATSS of any type that act only as agents for customers are regulated separately. This functional approach looks not at the technology involved in a trading system, nor at the size of the trading system, but, rather, at its economic function. While we have discussed these functions of ATSS more extensively in Section IV, at its most basic level this function is to provide pure agency services to customers. Such a broker-agency function characterizes the operations of Tradebook, OptiMark, POSIT, and many of other newly developing ATSS.

Regulation by agency function would allow the SEC to apply those regulations needed for incorporating agency/brokerage trading venues into the national market system but would not entail regulation inappropriate for meeting the aims set out by Congress in its directive to the SEC. Thus, if ATSS have reporting obligations for all trades and for quotes placed by broker-dealers, they will be integrated into the NMS while retaining the anonymity of customer orders. Similarly, ATSS could be expected to facilitate the aims of the national market system by providing access for trade execution to noncustomers. And broker-agency systems can be expected to provide sufficient audit trail data to the SEC to facilitate the monitoring on a marketwide basis of fraud and anticompetitive activities. Further, given their function, ATSS would be expected to be subject to all obligations currently attaching to the broker function.

A higher level of regulatory treatment should attach when any system, regardless of its technology, begins adding other functions, such as a dealer function or the bundle of liquidity and reputational services generally associated with organized stock exchanges. Thus, if a current broker-dealer such as Merrill Lynch offers an electronic communications network as part of its operation, then it should be regulated as a broker-dealer and not strictly as an agency-brokerage ATSS. Similarly, if a current agency-brokerage ATSS such as Instinet were to add dealer services as part of its operation, then it, too, would be better regulated as a broker-dealer. Were it to add listing or other exchange functions, then it should be regulated as an exchange.

There are four aspects of this approach that are particularly noteworthy. First, it is impossible to know what direction future technology will take and how it will be implemented in markets. It is not impossible, however, to characterize the function any future trading system will be attempting to meet. Thus the functional approach outlined here has the obvious advantage of being adaptive to the technology. This meets the SEC's objective to "develop a forward-looking and enduring approach that will permit diverse markets to evolve and compete, while preserving market-wide transparency, fairness, and integrity."<sup>69</sup>

Second, what form future trading needs will take and which services trading firms and venues will offer to meet those needs also defies prediction. But whatever needs arise, the efficient operation of markets dictates that providers of execution services must be free to adapt and to offer new products. When they do, the regulation that surrounds them must be both appropriate and predictable. Thus, if a firm opts to offer a particular vector of services, then it should do so knowing how those services will then be regulated. The functional approach is consistent with this notion of firms opting into their regulatory structure, not by some fiat regarding what a particular type of trading system is defined to be but, rather, by the economic products they choose to provide. After all, efficient regulation seeks to structure efficient economic effects on the trading market. Therefore, regulation targeted at economic function can reasonably predict and thereby be tailored to the economic effects of the function.

Third, in order to foster both efficient operation of the service and market entry by new providers, technologically advanced trading systems should not be singled out for special regulatory treatment. If technology is to develop fully, it must not be singled out for special regulatory treatment because, if regulated, technological innovation will respond to the requirements of the regulations rather than to the needs of the marketplace. Thus, it makes sense to regulate all broker-based systems, rather than just electronic ones, just as it makes sense to regulate all exchanges, not just the largest ones.

Finally, the functionality approach is consistent with the general regulatory approach the SEC has traditionally taken. The SEC generally has followed a functional approach to regulation that has welcomed market innovations. Indeed, the SEC has stated proudly and accurately that "[t]hroughout the past 60 years, the Commission has attempted to accommodate market innovations within the existing statutory framework to the extent possible in light of investor protection concerns, without imposing

<sup>69</sup> 62 Fed. Reg. 30,486 (1997).

regulation that would stifle or threaten the commercial viability of such innovations.”<sup>70</sup> Thus, for example, the regulations governing exchanges were designed to meet the needs presented by exchanges. Significantly, exchange regulation was promulgated long after organized stock exchanges came into existence. Before such regulations were developed, stock exchanges were a well-understood phenomenon in the economy. The same sequence of events describes the regulation of broker-dealer firms. Broker-dealer regulation followed the emergence of broker-dealers and is therefore well tailored to meet the needs of broker-dealer firms.

Consider, for example, the problems involved in a categorical rule making ATSs subject to the same regulations as exchanges. If classified as exchanges, ATSs would not be allowed to trade NASDAQ securities unless given NASDAQ/National Market System unlisted trading privileges, and they would be prohibited from trading other unlisted securities. This restriction would reduce liquidity. Alternative trading systems would also then be required to assure regulatory oversight of their participants. This requirement would add needless costs and uncertainty to the business of providing ATSs without increasing the quality of surveillance currently provided by exchanges and other self-regulatory organizations.<sup>71</sup> If classified as exchanges, the ATSs would have to join marketwide plans to coordinate their activities, quotations, and trade reporting with other firms, such as the NYSE as well as regional exchanges. This “coordination” could reduce the value of the transaction services offered on ATSs by reducing the ability of such systems to handle orders and expression of customer interest with the confidentiality demanded by their clientele. Finally, if termed an exchange, ATSs would have to change their corporate governance structure from that of being proprietary firms to that of being member owned with public representation on their board. Apart from the obvious concerns over the feasibility, let alone the viability, of doing so, this change would dramatically undermine the ability of ATSs to develop and innovate.

There is no link whatsoever between the goals of the national market system (economically efficient execution of orders, fair competition, transparency, investor access to the best markets, and the opportunity for investors’ orders to be executed without the participation of a dealer) and the classification of ATSs as exchanges. In fact, as we have demonstrated in this article, classifying ATSs as exchanges would be antithetical to the realization

<sup>70</sup> *Id.* 30,501 at n.94.

<sup>71</sup> If classified as exchanges, ATSs would also have to provide for notice and public comment from competitors and other outsiders whenever they wished to offer new services or to alter their current product mix. This requirement would stifle innovation and technological advances by ATSs.

of these goals. Markets would be more costly and, thus, less efficient. Markets would be less transparent because institutional customers would either decline to reveal their orders or else divert them to unregulated broker-dealer firms. Investors, particularly U.S. institutional investors, would be deprived of the best markets for their trades. And ATSS, which currently permit the execution of trades by institutional investors without the intervention of a dealer, would be disadvantaged relative to their broker-dealer competitors. Congress's express goal of providing for the opportunity for investors' orders to be executed without the participation of a dealer would be thwarted if ATSS were reclassified as exchanges.<sup>72</sup>

Finally, reclassifying ATSS as exchanges ignores the very real difference between the economic role played by exchanges and that played by ATSS. As we have argued in this article, exchanges evolved to meet a specific set of economic needs. So, too, did ATSS. That these needs are not the same is fundamental to recognizing why they should not be regulated the same.

In contrast to the SEC's generally sophisticated, functional approach in its regulatory efforts, commercial banking regulation, for a variety of reasons, has followed a much more rigid pattern of regulation by categorization. Thus, commercial banks are regulated on the basis of their legal designation (national banks, state banks, state banks that are members of the Federal Reserve System, credit unions, savings and loan associations, and so on), rather than on their particular functions. This rigid approach has led to the balkanization of the U.S. banking industry and has played a large part in keeping U.S. banks from innovating and from reaching the same worldwide competitive position as U.S. capital markets. The fact that the United States is generally categorized as having strong capital markets and weak banking markets is attributable in no small part to the rigidity of banking regulation and to the flexibility of capital markets regulation.

Recently, the SEC has evinced just such a categorical approach to regulation by proposing a regulatory structure for ATSS that requires their classification as either exchanges or a new type of broker-dealer. This proposal does not consider the functionality of the ATS but, instead, requires ATSS to fit into a regulatory mold little different from that employed since the original Securities Exchange Act.<sup>73</sup> Such an approach seems unlikely to maintain the strength and competitiveness of U.S. capital markets. As Richard Lindsey has observed in his public statements about the Concept Release, "[T]echnology has changed the essential structure of U.S.

<sup>72</sup> See S. Rep. No. 75, 94th Cong., 1st. Sess. 8 (1975).

<sup>73</sup> The SEC's recent efforts at Concept Releases relating to ATS are a dangerous sign of the potential of such a departure. See SEC Release 34-38,672 (May 23, 1997), 62 Fed. Reg. 30,486 (June 4, 1997); SEC Release 34-39,884 (April 16, 1998), 63 Fed. Reg. 23,507 (1998).

markets.’’<sup>74</sup> This technology also requires the regulatory structure to change as well.

## VI. CONCLUSIONS

United States capital markets remain highly successful amidst growing global competition not because they are highly regulated but because they are well regulated. United States capital markets regulation, unlike U.S. banking regulation, follows a functional approach that is sensitive both to public policy concerns as well as to market conditions and the economic realities of the firms and financial products being regulated. The recent explosive growth in the number and importance of trading venues that offer an alternative to the traditional exchange floor should be viewed as a positive sign that both regulation and competition are working to promote innovation and expanded choice for traders and investors. At the same time, the traditional exchanges, particularly the NYSE, have maintained a strong competitive position in the face of this competition. This is a testament to their ability to innovate and to adapt to changing market conditions.

Coinciding with the increasing technological sophistication of financial intermediaries has been a marked increase in the sophistication of market participants. Advances not only in technology and trading techniques but also in financial modeling, corporate financial planning, and securities design have combined to create an increasingly sophisticated, demanding—and international—client base for U.S. capital markets. These customers have come to demand transaction services custom-tailored to meet their particular trading needs. Broker-dealers, exchanges, and ATSS have all responded to the challenge with a myriad of new services and technologies.

Clearly, regulators, like market participants themselves, feel pressured to respond to rapidly changing market condition. In this article we have urged the SEC, in its response, to remain faithful to its own time-tested approach to regulation and to continue to maintain a regulatory environment that generates regulations that are well suited to marketplace realities. We share the SEC’s concerns that issues about access, transparency, and efficiency should be raised and discussed. Regulatory solutions should then follow when such solutions will improve the fairness and efficiency of the markets. At the same time, if regulations do not follow the functional approach described in this article, then they are likely to fail, because market participants who wish to avoid a particular rule can simply direct their trading activities to an unregulated venue. In particular, regulations that are based

<sup>74</sup> Richard Lindsey, Concept Release speech (August 26, 1997), p. 5 (untitled draft on file with authors).

simply on arbitrary considerations, such as the size, market share, or level of technology employed by firms offering transaction services, fail to properly capture the economic effects that are inextricably tied to functions. Such an approach would not only generate regulations that would be particularly easy to avoid, it would also severely stifle technological innovation.

Instead, we believe that another regulatory approach, grounded on the economic realities of the marketplace, would better serve to increase the efficient operation and competitiveness of U.S. capital markets. In this article, we unbundled the services offered by exchanges, broker-dealer firms, and ATSS into their respective component parts. We showed that these firms all offer different services designed to respond to the needs of different clientele. We also observed that current regulations of exchanges and broker-dealer firms follow a functional approach and that these regulations serve public policy goals of promoting fairness and efficiency without restricting the ability of market participants to offer precisely the bundle of products that they choose to offer their respective clientele and no more. Our suggestion is that regulation of ATSS follow this same, successful functional perspective. This perspective starts with recognizing the legitimate needs of the clientele of ATSS.

We believe that the functional approach outlined here will permit the SEC to develop a more forward-looking approach to regulation that will achieve the goals of maintaining fairness, integrity, and transparency, while allowing the wide array of firms and exchanges offering transaction services to continue to compete through innovation.