

January 1999

The SEC's New Regulation Acts: Placing the Myth of Market Fragmentation Ahead of Economic Theory and Evidence

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Mark Klock, *The SEC's New Regulation Acts: Placing the Myth of Market Fragmentation Ahead of Economic Theory and Evidence*, 51 Fla. L. Rev. 753 (1999).

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Florida Law Review

Founded 1948

Formerly
University of Florida Law Review

VOLUME 51

DECEMBER 1999

NUMBER 5

THE SEC'S NEW *REGULATION ATS*: PLACING THE MYTH
OF MARKET FRAGMENTATION AHEAD OF
ECONOMIC THEORY AND EVIDENCE

*Mark Klock**

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INTRODUCTION

On December 22, 1998 the SEC adopted a new rule, *Regulation ATS*,¹ and related rule amendments which took effect in early 1999. The changes are designed to impose additional regulatory restraints on Alternative Trading Systems (ATS) which compete against older financial markets such as the NYSE and NASDAQ for order flow.² The SEC's articulated justification for the new rules is based primarily on a desire to reduce market fragmentation, taking as a given that market fragmentation hurts the public good.³ Market fragmentation is a situation in which the same securities trade in different markets, possibly at different prices.⁴ In adopting these new rules, the SEC has ignored empirical economic research containing statistical evidence that financial markets are well integrated rather than fragmented.⁵ The SEC also has ignored both economic theory and evidence related to the benefits of allowing separate markets to evolve which trade the same financial securities.⁶ Finally, the

1. Regulation of Exchanges and Alternative Trading Systems, 63 Fed. Reg. 70843, 70844 (1998) (to be codified at 17 C.F.R. §§ 202, 240, 242, 249) [hereinafter *Regulation ATS*].

2. *See id.*

3. *See id.* at 70845 (noting that some markets are not available to all and asserting without basis that this creates disparities requiring action).

4. *See* Kathleen Hagerty & Robert L. McDonald, *Brokerage, Market Fragmentation, and Securities Market Regulation*, in THE INDUSTRIAL ORGANIZATION AND REGULATION OF THE SECURITIES INDUSTRY 35, 35 (Andrew W. Lo ed. 1996).

5. *See generally* *Regulation ATS*, *supra* note 1 (failing to refer to any statistical studies on the integration between financial markets, although there are numerous published studies on the topic); Bala Arshanapalli & John Doukas, *The Linkages of S&P 500 Stock Index and S&P 500 Stock Index Futures Prices during October 1987*, 49 J. ECON. BUS. 253, 254 (1997) (finding that the cash and futures markets operate as a single market); Frederick H. deB. Harris et al., *Cointegration, Error Correction, and Price Discovery on Informationally Linked Security Markets*, 30 J. FIN. QUANTITATIVE ANALYSIS 563, 578 (1995) (finding that security prices on the NYSE adjust towards those in other markets and vice versa).

6. *See, e.g.*, Hagerty & McDonald, *supra* note 4, at 37:

SEC has ignored existing remedies for dealing with the alleged ill-effects of market fragmentation, such as antitrust laws.⁷

In this Article, I argue that the SEC is overly concerned with unsubstantiated and refuted ill effects of market fragmentation at the expense of higher transaction costs in financial markets.⁸ In addition, and even more significantly, I argue that the SEC is basing public policy on anecdotal experience rather than economic theory and statistical evidence.⁹ There is no excuse for ignoring the economic literature when making economic policy and the result of such behavior could severely damage the U.S. economy as the financial sector is driven offshore or regulations lead to higher transaction costs, inferior pricing, inefficiency, higher costs of

We find that fragmentation may be a reflection of increased price competition, and that the fragmented and competitive system provides better prices for customers than the less-fragmented monopolistic broker case.

This view suggests that there is no "silver bullet" trading system that, if implemented, would attract all order flow. Rather, it suggests that central markets and brokerage markets serve different needs for different investors.

Id.

7. See *Regulation ATS*, *supra* note 1, at 70845. Much of the SEC's concern with market fragmentation appears to be over the fact that there have been instances in which a securities dealer has simultaneously quoted one price in a retail market and another price in a different market not available to retail customers. See *id.* (stating in a negative tone, "Through Instinet, market makers were able to quote prices better than those made available to public investors. This private market developed only because the activity on alternative trading systems is not fully disclosed, or accessible, to public investors."). Without taking a position on the alleged harmful effects of such activity and the merits of such a claim, such activity might be better treated as price discrimination and pursued under the Robinson-Patman Act, 15 U.S.C.A. § 13.

8. Cf. Jonathan R. Macey & David D. Haddock, *Shirking at the SEC: The Failure of the National Market System*, 2 U. ILL. L. REV. 315, 341 (1985). The idea that the SEC is overly concerned with market fragmentation is certainly not new to the legal literature; the present Article, however, discusses new regulation related to recent technological innovations in financial markets and places more emphasis on statistical analysis of data.

9. See generally *Regulation ATS*, *supra* note 1 (neither providing nor referring to any research using actual data). As an example of the SEC's research, *Regulation ATS* cites a report on the National Association of Securities Dealers (NASD) as containing evidence that widespread use of an ATS by NASDAQ market makers had a significant impact on public investors. See *id.* at 70845. However, the citation to the report contained no page number, and I can find no "evidence" of any sort in the 139 page document. See SECURITIES AND EXCHANGE COMMISSION, REPORT PURSUANT TO SECTION 21(a) OF THE SECURITIES EXCHANGE ACT OF 1934 REGARDING THE NASD AND THE NASDAQ MARKET (1996). Indeed, it is impossible for such evidence to exist because both the ATS and NASDAQ at that point in time did not maintain order audit trail data. The impression one gets is that SEC policy makers are basing decisions on stories told by interested parties without looking at any actual data in spite of the fact that the agency has a staff of qualified economists at its disposal. Cf. Gregg A. Jarrell, *Change at the Exchange: The Causes and Effects of Deregulation*, 27 J.L. & ECON. 273, 307 (1984) (arguing that SEC actions are the result of political pressure rather than part of a plan to promote economic welfare); Macey & Haddock, *supra* note 8, at 315.

capital, and lower levels of investment. This Article attempts to fill a gap in the discussion about ATS by focusing the attention of legal commentators and regulators on economic theories and empirical evidence which run contrary to the hypothesis that market fragmentation damages financial markets in practice.

I. BACKGROUND

A. *Traditional Markets*

Financial markets are organized in many alternative ways.¹⁰ A large body of literature in economics and finance is devoted to the study of how the rules of the market affect the performance of the market.¹¹ This field of study is called market microstructure.¹² The performance of the market can be measured using a variety of methods.¹³

There is not one optimal set of rules for a financial market as different market participants differ in their motives for trading and will be interested in rules which optimize different dimensions of market performance.¹⁴ A comprehensive survey of the various financial markets and rules of trade employed is beyond the scope of this Article; however, a very brief description of two of the most familiar financial markets is useful background for understanding some of the issues raised by alternative trading systems. Thus, I will give a brief summary of trading on the NYSE and NASDAQ market.

It is first necessary to understand that investors and traders can place different kinds of orders.¹⁵ Two of the most important kinds of orders are market orders and limit orders.¹⁶ A market order is a request to buy or sell at the market price¹⁷ which is generally considered the best price available.¹⁸ Individuals placing market orders are demanding immediacy in transacting and pay a premium for it.¹⁹

10. See MAUREEN O'HARA, MARKET MICROSTRUCTURE THEORY 6-12 (1995).

11. See *id.* at 1.

12. See *id.*

13. See Hans R. Stoll, *Equity Trading Costs In-The-Large*, 19 J. PORTFOLIOMGMT. 41, 41-42 (1993).

14. See Hagerty & McDonald, *supra* note 4, at 61 ("The market in which all participants trade in one place at one price is not necessarily the market preferred by all traders, and there is no compelling reason for thinking it best in any sense.")

15. See ZVI BODIE ET AL., INVESTMENTS 76-78 (4th ed. 1999).

16. See *id.*

17. See *id.* at 76.

18. See Jonathan R. Macey & Maureen O'Hara, *The Law and Economics of Best Execution*, 6 J. FIN. INTERMEDIATION 188, 191 (1997).

19. See Harold Demsetz, *The Cost of Transacting*, 82 Q.J. ECON. 33, 35-36 (1968).

Limit orders are offers to buy at a price not to exceed some limit or sell at not less than some limit.²⁰ Individuals placing limit orders are supplying immediacy and receive a premium for it.²¹ “A limit order to buy with a limit price at or above the market is marketable in that it can be executed immediately whereas a limit order to buy with a limit price below the market is not marketable.”²²

The NYSE concentrates trading in a specific security in a single physical location—the specialist’s post on the floor of the exchange.²³ The specialist is a member of the exchange who has been given additional privileges and obligations to operate as a specialist for a particular security.²⁴ At various times for various transactions, the specialist sometimes acts as: a broker (agent); a dealer (principal); or an auctioneer.²⁵ The market operates as a continuous auction in which the price is set to equate supply and demand with immediate liquidity provided by the specialist.²⁶ When buy and sell orders come to the post simultaneously, the specialist acts as an auctioneer—setting a price to clear the market.²⁷ However, if only buy orders arrive at a given moment, the specialist acts as a dealer and provides immediate liquidity by selling to the buyers from his own inventory.²⁸ Of course the specialist, like anyone, cannot earn a living buying and selling at the same quote. Thus, the specialist always posts two quotes: a bid reflecting the price he (or someone who has placed a price-improving limit order) will pay sellers, and a higher asking price reflecting the price he is willing to sell at.²⁹ One common measure of market performance is the size of the bid-ask spread.³⁰

If a limit order arrives at the specialist’s post between the spread (for example, a limit order to buy with a limit price lower than the ask but better than the bid) the specialist acts as a broker for that order, holding it until a market order to sell comes in or until the ask price drops to the limit

20. See BODIE ET AL., *supra* note 15, at 77.

21. See Demsetz, *supra* note 19, at 36-37.

22. GORDON J. ALEXANDER & WILLIAM F. SHARPE, *FUNDAMENTALS OF INVESTMENTS* 38-39 (1989) (describing the process of placing a limit order).

23. See BODIE ET AL., *supra* note 15, at 76.

24. See ALEXANDER & SHARPE, *supra* note 22, at 36.

25. See BODIE ET AL., *supra* note 15, at 78-79.

26. See O’HARA, *supra* note 10, at 10.

27. See BODIE ET AL., *supra* note 15, at 78 (“[T]he specialist system results in an auction market. . . . In this role, the specialist acts merely as a facilitator.”).

28. See Demsetz, *supra* note 19, at 37-38.

29. See Hans R. Stoll, *The Economics of Market Making*, in *THE NASDAQ HANDBOOK* 263, 266 (Douglas F. Parillo et al. eds., 1992) (“Market-making services are supplied in response to economic rewards—the profit realized from buying at the bid price and selling at the ask price.”).

30. See *id.* (“In competitive markets, the bid/ask spread reflects the cost of providing dealer services—for dealers will not stay in business unless they are compensated for their costs, and new dealers will enter if profits are too great.”).

price.³¹ Specialists have some market power in that they are the only ones on the floor of the exchange quoting both sides of the market.³² In return for this market power, they are charged with maintaining a fair and orderly market.³³ How well the specialist system has performed has been a subject of heated debate in both the legal and economic literature.³⁴

The NASDAQ market is an over-the-counter (OTC) market meaning that there is no exchange or centralization of orders.³⁵ OTC stocks traded in NASDAQ are the most liquid OTC stocks, many of which qualify for exchange listing but choose not to.³⁶ All stocks in NASDAQ must have at least two dealers making a market in the stock.³⁷ The average number of market makers in a stock exceeds ten and some stocks have more than sixty market makers.³⁸ An individual placing an order for a NASDAQ stock first gives the order to his broker.³⁹ Rather than route the order to the specialist's post on the floor of the exchange, since there is none, the broker looks on a terminal and sees which market makers are quoting the best price.⁴⁰ The broker might then route the order to one of the dealers quoting the best price, or fill it from his own inventory at that price.⁴¹ Sometimes there might be an agreement in which the broker routes orders to a particular dealer without regard to quote, but the dealer receiving such orders has precommitted to fill them at the best quote regardless of whether it is his.⁴² These agreements might involve cash payments to the broker or other kinds of soft compensation (such as a quid pro quo) and thus, have been controversial.⁴³ However, notwithstanding the possibility of a different commission, customers always have the right to give the broker

31. See BODIE ET AL., *supra* note 15, at 78.

32. See *id.* at 70 (“[S]pecialists’ access to their book of limit orders gives them unique knowledge about the probable direction of price movement over short periods of time.”).

33. See *id.* at 78.

34. See generally Dale Arthur Oesterle et al., *The New York Stock Exchange and Its Out Moded Specialist System: Can the Exchange Innovate to Survive*, 17 J. CORP. L. 223, 223-310 (1992) (criticizing the specialist system and surveying the literature on this system).

35. See BODIE ET AL., *supra* note 15, at 81.

36. See Reena Aggarwal & James J. Angel, *Order-Driven Versus Quote-Driven Trading Systems: The Case of the AMEX Emerging Company Marketplace 2* (Georgetown University School of Business Administration Working Paper, 1993).

37. See Stoll, *supra* note 29, at 269.

38. See Mark Klock & D. Timothy McCormick, *The Impact of Market Maker Competition on NASDAQ Spreads*, 34 FIN. REV. 55, 61 (1999).

39. See BODIE ET AL., *supra* note 15, at 81.

40. See ALEXANDER & SHARPE, *supra* note 22, at 42.

41. See Norman S. Poser, *Restructuring the Stock Markets: A Critical Look at the SEC’s National Market System*, 56 N.Y.U. L. REV. 883, 890 (1981).

42. See Macey & O’Hara, *supra* note 18, at 212.

43. See *id.* at 206.

specific instructions as to how or where they want an order executed.⁴⁴ The NASDAQ system is based on the concept of competing dealers (market makers) rather than a specialist through which orders are centralized.⁴⁵

The NASDAQ system did not facilitate price improvement in that there was little or no opportunity for customers to obtain executions between the spread.⁴⁶ There is no auction and there was no ability to display price-improving limit orders.⁴⁷ The NASD recently began phasing in a new requirement for transparency (public display) of price improving limit orders.⁴⁸

The NASDAQ market is operated by a national securities association and is not considered an alternative trading system.⁴⁹ Nevertheless, the issues that arise in examining how ATS affect the functioning of NASDAQ and registered exchanges are the same as those which arose when examining how NASDAQ affected the NYSE.⁵⁰

Besides the NYSE's continuous auction with immediate liquidity provided by specialists and NASDAQ's competing market maker models of financial markets, there are many other alternatives such as periodic call markets (e.g., orders collected and a price set every hour).⁵¹ This provides a sufficient background for understanding the issues raised by ATS.

B. *Alternative Trading Systems*

An alternative trading system is essentially any system designed to attract multiple buy and sell orders for financial securities and create a price by means other than pure negotiation except for organizations which were previously registered exchanges or the National Association of Securities Dealers.⁵² ATS have at times been referred to as Proprietary Trading Systems (PTS), Electronic Trading Systems, and Broker-Dealer

44. See *id.* at 194 (stating that if a customer directs a broker to execute a trade in a specific manner the broker can satisfy the fiduciary duty without searching for a better price).

45. See Stoll, *supra* note 29, at 266.

46. See Poser, *supra* note 41, at 895 (“[T]he OTC market provides no way for the orders of a buying customer and a selling customer to meet directly The OTC market is therefore known as a ‘dealer’ market.”).

47. See ALEXANDER & SHARPE, *supra* note 22, at 42 n.12.

48. See 17 C.F.R. 240.11(A)(c)(1)-(4) (1999) [hereinafter *Limit Order Display Rule*].

49. See *Regulation ATS*, *supra* note 1, at 70852.

50. See, e.g., Kalmen J. Cohen & Robert M. Conroy, *An Empirical Study of the Effect of Rule 19c-3*, J.L. & ECON. 277, 279-80 (1990). There has been substantial research conducted on the impact of trading NYSE-listed stocks on NASDAQ (fragmenting the order flow of these securities). See *id.* The issues raised are the same as those which surface when debating the impact of trading exchange-listed and NASDAQ securities on ATS.

51. See O'HARA, *supra* note 10, at 6-12.

52. See *Regulations M & ATS*, 17 C.F.R. 242.300(a) (1999).

Trading Systems.⁵³ Instinet was the first ATS to draw regulatory action from the SEC in 1969.⁵⁴ Instinet is organized as a privately-owned on-line trading system through which traders can enter orders and quotes without revealing their identity to a broker or anyone else.⁵⁵

The methods for organizing an ATS vary considerably.⁵⁶ In addition to the many different methods used for effecting securities transactions, there are many different rules employed for anyone who has access to the ATS.⁵⁷ ATS can be used to effect anonymous large transactions between institutions or market makers.⁵⁸ The type of user of an ATS probably affects the organization of the ATS and vice-versa.⁵⁹ Transactors have an obvious economic incentive to use the trading system which optimizes their most critical performance measures whether it be speed of transacting, anonymity, price improvement, price impact, or some other measure.⁶⁰

C. Market Fragmentation

Market fragmentation is simply the existence of multiple markets for trading the same item.⁶¹ There is no question that under certain conditions, fragmentation of financial markets could have undesirable effects.⁶² Economists would agree that given certain assumptions or performance metrics, market fragmentation would produce undesirable consequences in theory.⁶³ However, whether the required assumptions represent a

53. See *Regulation ATS*, *supra* note 1, at 70845 n.1.

54. See Ian Domowitz, *An Exchange Is a Many-Splendored Thing: The Classification and Regulation of Automated Trading Systems*, in *THE INDUSTRIAL ORGANIZATION AND REGULATION OF THE SECURITIES INDUSTRY* 93 (Andrew Wold ed. 1996).

55. See Macey & O'Hara, *supra* note 18, at 175 n.17.

56. See Domowitz, *supra* note 54, at 96-97.

57. See *id.* at 103-04 (describing the relative flexibility ATS have in granting or denying access).

58. See Macey & O'Hara, *supra* note 18, at 175 n.17.

59. Cf. Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305, 305 (1976) (explaining that the type of business engaged in explains the organizational form).

60. See Macey & O'Hara, *supra* note 18, at 189. For example, there is no point to saving fifty cents on the price if the transaction costs an extra dollar in commission. See *id.* (stating that good trade execution depends on a vector of attributes including price, timing of trades, mechanism used, commission, and strategy employed).

61. See Hagerty & McDonald, *supra* note 4, at 35 ("A striking fact about the organization of modern financial markets—and one of the great interest [sic] to market regulators and exchanges—is the prevalence of market fragmentation, that is, multiple mechanisms or locations for trading a security.").

62. See BODIE ET AL., *supra* note 15, at 81 (describing how customer orders can be traded through).

63. See O'HARA, *supra* note 10, at 269 (describing how a single monopolistic system could

suitable model of reality, whether the magnitude of the undesirable effects is material, and whether there might not be offsetting benefits from market fragmentation is essentially an empirical question.⁶⁴

A simple economic model might assume the following three features: 1) all participants have the same objective function,⁶⁵ 2) all participants have the same information, and 3) the technology of the market is fixed and is a Walrasian auction.⁶⁶ Under these assumptions there would be advantages to centralizing all orders and disadvantages to market fragmentation.⁶⁷ The reasoning behind this is that under the above assumptions, everyone measures the market's performance in the same way; no one has an information advantage and therefore no market structure can enhance or mitigate such an advantage; and transactions occur without cost.⁶⁸ Fragmenting the market would reduce liquidity and price discovery leading to worse execution prices for some, greater variation or uncertainty in the market, and simultaneous trading of the same security at different prices.⁶⁹ To understand how this might negatively

be optimal in theory); Hagerty & McDonald, *supra* note 4, at 35 ("To the extent that securities markets provide a central trading location serving to minimize the search cost of finding a counterparty, fragmentation is a puzzle.").

64. Cf. O'HARA, *supra* note 10, at 269 (stating that the simple view does not capture the complexity of the process and that segmenting trading could provide more social welfare than a single market).

65. The objective function mathematically formalizes the attributes which matter to the participants and the rate at which participants are willing to trade off these attributes against one another. An example of a standard objective function would be one in which the only two attributes which mattered are the expected value of terminal wealth and the variance of that terminal wealth. To assume that all participants have the same objective function means that everyone is willing to trade off risk and expected wealth at the same rate. If we further assume a multiperiod model where new information is revealed each period and firms make investment decisions and issue or repurchase securities at that time while individuals simultaneously rebalance their portfolios we would have a simple model of trading behavior.

66. See O'HARA, *supra* note 10, at 4. A Walrasian auction is a fictitious process by which the price which causes the number of buy orders to equal the number of sell orders is determined and assets are costlessly exchanged. See *id.*

67. Cf. Robert Battalio et al., *Do Competing Specialists and Preferencing Dealers Affect Market Quality?*, 10 REV. FIN. STUDIES 969, 970 (1997) (pointing out that proponents of concentrating orders in a single location argue that investors will get quicker and cheaper execution).

68. See Lawrence Harris, *Consolidation, Fragmentation, Segmentation, and Regulation*, in GLOBAL EQUITY MARKETS: TECHNOLOGICAL COMPETITIVE AND REGULATORY CHALLENGES 269, 272 (Robert A. Schwarz ed. 1995) ("Consolidation can be best understood by momentarily adopting a simple but highly unrealistic assumption. Assume that all traders and all trading problems that they face are identical If this extreme assumption were true, all traders would want to trade in the same market in which all other traders trade.").

69. Since people could send their orders to different markets, the price which clears sell and buy orders could differ. Furthermore, each price would convey information about only a subset of supply and demand as opposed to aggregate supply and demand.

affect the market, consider that limit orders to buy with low limit prices might be executed in one market while price-improving limit orders to buy entered into a different market might remain unfilled.⁷⁰ The fact that this scenario leads to negative consequences resulting from market fragmentation notwithstanding, we do not know just how severely market performance would be affected. That is an empirical question. Furthermore, it is an empirical question of little importance because such a world is only hypothetical, and the differences between the real and hypothesized world are significant.⁷¹ Technology is clearly not fixed:

Beyond a doubt, information technology will profoundly alter the business of investing, largely for the better

First, technological advancement in the investment business serves to lower search and transaction costs. As a result, information technology will be a significant benefit to investors and thus to the process of capital formation, insofar as the "investment process" in essence involves little more than the efficient management of such costs. A principal strategic objective of any scheme for regulating technology-based investment services should be to allow the investing community to capture these cost reductions.⁷²

Technology is improving and will continue to improve as long as there are incentives to invest in technology.⁷³ The costs of the marketplace are not fixed.⁷⁴ Participants do not all have the same information and those trading or making a market in a security are aware of the adverse selection

70. See Thomas H. McNish & Robert A. Wood, *Hidden Limit Orders on the NYSE*, 21 J. PORTFOLIO MGMT. 19, 22 (1995). For a numerical example, consider a situation in which the market maker is quoting 50, 50.25 and someone enters a limit order to buy at 50.125. This limit order might not be known in parallel markets. Thus a different customer might buy the stock at 50.25 in the parallel market while the original customer considered has an unfilled order. This is known as a "trade-through." See *id.* It should be noted that there has been other recent regulatory action independent of *Regulation ATS* to reduce trade-throughs. The NASD, under SEC pressure, is in the process of phasing in new order handling rules which require market makers to display price-improving limit orders from customers. See *Limit Order Display Rule*, *supra* note 48.

71. See R.H. COASE, *THE FIRM, THE MARKET, AND THE LAW* 7 (1988) ("Markets are institutions that exist to facilitate exchange, that is, they exist in order to reduce the cost of carrying out exchange transactions. In an economic theory which assumes that transaction costs are nonexistent, markets have no function to perform . . .").

72. Donald C. Langevoort, *Information Technology and the Structure of Securities Regulation*, 98 HARV. L. REV. 747, 803 (1985).

73. Cf. J. Harold Mulherin et al., *Prices Are Property: The Organization of Financial Exchanges from a Transaction Cost Perspective*, 34 J.L. ECON. 591, 643 (1991) (arguing that innovation by financial exchanges is induced by providing strong property rights).

74. See O'HARA, *supra* note 10, at 6 (arguing that the market, and therefore the cost, is not exogenous).

problem—that the opposing party might have superior information and would take advantage of the uninformed.⁷⁵ Conversely, some participants have the same information, and those trading or making a market in a security are aware of the adverse selection problem—that the opposing party might have superior information and would take advantage of the uninformed.⁷⁶ Furthermore, not all participants have the same objective function: “Markets fragment because traders are not all identical and because the trading problems they face are not all identical. The same fundamental asset may simultaneously trade in different market structures because different structures better serve the needs of some traders than others.”⁷⁷ Others are most concerned about transaction costs and are willing to trade the risk of a price change for lower transaction costs.⁷⁸ Yet others, such as a pension fund trading 20,000 shares, will be concerned with hiding their identity and the total amount they wish to trade in order to avoid the impact this would have on the execution price.⁷⁹

Of course even if it were desirable not to have a fragmented market, there would be no need to impose it by regulation. “If the best market system would be a consolidated system, regulators do not need to impose one on identical traders. They will choose it for themselves. Any regulatory efforts to impose a consolidated system risk choosing the wrong system and/or stifling innovation.”⁸⁰

There are some ancillary effects which could arise from market fragmentation as well. The existence of different markets means that brokers have choices about where to send their orders. Market makers can enter into arrangements known as preferencing agreements in which brokers agree to send all orders meeting certain conditions to a particular market maker in return for something, often cash.⁸¹ This practice is known as payment for order flow.⁸² Of course brokers have an obligation to their customers to get the best reasonably available price,⁸³ but industry practice

75. See *id.* at 53-75 (surveying the literature on adverse selection models of trading).

76. See Harris, *supra* note 68, at 274-75.

77. Macey & O'Hara, *supra* note 18, at 189 (stating that the best execution encompasses many different attributes).

78. See *id.*

79. See *id.* at 195 n.17 (“Traders, particularly large institutions, conduct large transactions on Instinet without any revelation of their identity, thereby enabling them to avoid the adverse market reaction that would accompany the revelation of their identity.”).

80. Harris, *supra* note 68, at 274.

81. See Robert H. Battalio, *Third Market Broker-Dealers: Cost Competitors or Cream Skimmers?*, 52 J. FIN. 341, 343 (1997).

82. See Lois E. Lightfoot et al., *Order Preferencing and Market Quality on United States Equity Exchanges* 1 n.3 (SEC Working Paper, 1999).

83. See Macey & O'Hara, *supra* note 18, at 191. *But see id.* at 192 (stating that best execution need not strictly mean best price).

is to treat this obligation as fulfilled by giving the customer trade execution at the best available publicly displayed quote (known as the National Best Bid or Offer, NBBO).⁸⁴ It is possible that there is someone out there willing to trade at a better price, but the broker does not have to search for it.⁸⁵ Preferencing arrangements stipulate that when orders are preferenced to a particular market maker, the trade will be executed at the best available quote even though the preferenced market maker might be quoting an inferior price.⁸⁶ If an ATS pays brokers for orders which would have otherwise been sent to the floor of the NYSE, the result is clearly more fragmentation of order flow.

The practices of preferencing and payment for order flow have been controversial.⁸⁷ They are not necessarily bad,⁸⁸ but they raise interesting empirical questions, and empirical evidence should be examined before regulations are written.

II. HIGHLIGHTS OF *REGULATION ATS*

A. *General Overview*

The SEC's *Regulation ATS* adopts a new regulatory framework for the regulation of securities markets designed to increase the regulation of alternative trading systems.⁸⁹ The framework is essentially comprised of two parts.⁹⁰ One involves a change in the definition of "exchange" and rule amendments related to the regulation of exchanges, national securities associations, and brokers and dealers.⁹¹ The other is the new *Regulation ATS* which defines alternative trading systems and imposes new regulatory requirements on them.⁹² Previously, alternative trading systems were generally treated as broker-dealers.⁹³ Now, while the ATS have the option

84. *See In re Merrill Lynch*, 911 F. Supp. 754, 772 (D. N.J. 1995). While the summary judgment granted in this case was reversed on appeal, the appellate court simply stated that there was a material dispute of facts as to whether the additional costs and delay from searching for a better quote would offset any potential gain. *See id.*; *see also* *Newton v. Merrill*, 135 F.3d 266, 272 (3d Cir. 1998). Transacting at the NBBO is still the dominant practice. *See id.* at 274.

85. *See Merrill Lynch*, 911 F. Supp. at 770.

86. *See* Oliver Hansch et al., *Preferencing, Internalization, Best Execution, and Dealer Profits 1* (London Business School Working Paper, 1998).

87. *See id.*

88. *See id.* at 24 (stating that the practice of preferencing has not resulted in collusive profits).

89. *See Regulation ATS*, *supra* note 1, at 70845.

90. *See id.* at 70847 (identifying the principal components of the new regulatory framework as a new interpretation of "exchange" and the regulatory structure for ATS).

91. *See id.*

92. *See id.*

93. *See id.* at 70845 n.1.

to continue to register as broker-dealers, they are subject to significantly more regulatory requirements.⁹⁴

The new general framework significantly expands the definition of exchange beyond what it had been.⁹⁵ The SEC has by rule asserted the statutory definition of exchange under the Exchange Act.⁹⁶ New Rule 3b-16 “interprets” an exchange as including:

any organization, association, or group of persons that: (1) brings together the orders of multiple buyers and sellers; and (2) uses established, non-discretionary methods (whether by providing a trading facility or by setting rules) under which such orders interact with each other, and the buyers and sellers entering such orders agree to the terms of a trade.⁹⁷

The definition is quite broad and covers a wide range of activities which were not previously considered to be covered under the statutory definition of exchange.⁹⁸

The second major ingredient of the new framework is *Regulation ATS*, which defines the term ATS.⁹⁹ In effect, the definition of an ATS is a subset of the definition of an exchange—in other words, every ATS is an exchange but not every exchange is an ATS. An ATS is permitted to register as an ATS under *Regulation ATS*.¹⁰⁰ Any organization registered under *Regulation ATS* is not required to register as an exchange even though it meets the SEC’s new interpretation of an exchange.¹⁰¹ Any trading system registered as an exchange or operated by a national securities association is exempt from *Regulation ATS*.¹⁰² Thus, a trading system which meets the definition of an exchange but not that of an ATS must register as an exchange or be operated by a national securities association.¹⁰³ However, a trading system which meets the definition of an ATS has the option of registering as an exchange, being operated by a

94. *See id.* at 70847.

95. *See id.* at 70900 (referring to the old interpretation of exchange as narrow and the new interpretation as expanded).

96. *See id.* at 70847; *see also id.* at 70900 n.539 (citing legal authority supporting an agency’s discretion to revise its interpretation of a statutory definition).

97. *Id.* at 70848.

98. *See id.* at 70898 (noting that the statutory definition of exchange is broad and claiming that the SEC can apply the definition flexibly and that the SEC had previously interpreted the definition narrowly).

99. *See id.* at 70859.

100. *See id.* at 70847.

101. *See id.*

102. *See id.*

103. *See id.*

national securities association, or registering under *Regulation ATS*.¹⁰⁴ It should be noted that there is a catch-all provision by which the SEC can require an ATS opting to register under *Regulation ATS* when “an exemption from exchange regulation is not necessary or appropriate in the public interest or consistent with the protection of investors.”¹⁰⁵

B. *Scope of Exchange Definition*

Regulation ATS contains considerable discussion and illustrations of the application of its new definition of exchange.¹⁰⁶ An illustration of what lies clearly outside the scope of an exchange is a broker-dealer using a telephone to negotiate trades.¹⁰⁷ This is outside the scope of the definition since it involves negotiation of trades.¹⁰⁸ At the other extreme, an automated trading system whereby buy and sell orders are submitted and a computer algorithm determines prices and executions would appear to be clearly within the scope and generally is.¹⁰⁹ However, there are some gray areas. Large brokerage firms have automated systems for efficiently managing and routing order flow.¹¹⁰ These systems frequently cross orders internally and might do so using non-discretionary methods.¹¹¹ Yet the Commission specifically states that it is not its intention to cover this kind of activity and specifically excludes internal systems.¹¹² What is merely an internal system versus what is an exchange is not explained well. Furthermore, there are other inconsistencies. A single dealer system which executes orders at the inside NASDAQ quote is not considered an exchange.¹¹³ While the internal system of a retail brokerage firm is excluded, the Commission indicates that it believes most Inter-Dealer Brokers (IDBs) fall within the definition of exchange.¹¹⁴

IDBs economic function is exactly the same as that of a retail broker, just on a different scale for a different kind of customer.¹¹⁵ While the

104. *See id.*

105. *Id.*

106. *See id.* at 70854-56.

107. *See id.* at 70847 (“[The new rule] explicitly excludes those systems that the Commission believes perform only traditional broker-dealer activities.”).

108. *See id.* at 70850.

109. *See id.* at 70851.

110. *See id.* at 70854 (stating that automated trading systems of single dealer merely allow more efficient execution),

111. *See id.* (describing how automated dealer systems can match orders).

112. *See id.*

113. *See id.*

114. *See id.* at 70853 (“As a general matter . . . the Commission believes that most IDBs would be covered by the definition in Rule 3b-16(a) and not excluded by any of its exclusions.”).

115. *See O’HARA, supra* note 10, at 48-50 (stating that the fundamental processes of the interdealer and public markets are the same).

Commission provides some justification for considering IDBs to be within the scope of the rule,¹¹⁶ the same justification applies to the internal systems of retail brokerage. Although the SEC does not attempt to explain it this way, the decision appears to turn on whether the system involves retail brokerage or brokerage at the wholesale level. The SEC's attempt to justify the distinction appears to be based upon a belief that IDBs play an active role in displaying quotes and soliciting parties to transact while retail brokers do not.¹¹⁷ However, retail brokers have Internet Web sites by which customers can view quotes and place orders which are effectively no different than the IDB.¹¹⁸ Thus, the Commission has not distinguished the difference between the operation of an IDB and a retail brokerage with Internet access internalizing orders, but has indicated fairly clearly that one will be regulated and one will not.¹¹⁹

Furthermore, extremely aggressive activity which is perhaps more likely by a retail broker, such as calling and soliciting business by telephone, is not subject to the regulation.¹²⁰ An additional irony is that retail brokers often act as dealers making markets in the stock and buy from one customer while selling to another at a different price.¹²¹ IDBs generally merely effect the trade between two parties and receive a commission.¹²² Thus, the SEC's regulatory structure is like putting more regulation on a floor broker than a specialist on the exchange. Even without considering the economic function of financial markets, it is difficult to understand what the SEC is trying to do other than expand and blur regulation.¹²³ This creates some sympathy for the view previously expressed by others that the SEC merely reacts to political pressure and has been captured by the dominant institutions making markets (such as the NYSE and NASDAQ).¹²⁴ An alternative view is that the SEC is merely clumsy.¹²⁵

116. See *Regulation ATS*, *supra* note 1, at 70853.

117. See *id.*

118. See, e.g., Brown & Co. (visited Oct. 19, 1999) <<http://www.brownco.com>>.

119. See *Regulation ATS*, *supra* note 1, at 70853.

120. See *id.* at 70852 (specifically excluding "traditional" brokerage activity from the new regulations).

121. See *In re Merrill Lynch*, 911 F. Supp. 754, 757 (D. N.J. 1995).

122. See FRANK J. FABOZZI, BOND MARKETS, ANALYSIS, AND STRATEGIES 118 (1996) ("[IDBs] never trade for their own account, and they keep the names of the dealers involved in trades confidential.").

123. Cf. Macey & O'Hara, *supra* note 18, at 198 ("[A]bsent a better understanding of either the markets or the transactions they are regulating, the SEC has little choice but to choose a process and hope that it results in the desired objective.").

124. See Jarrell, *supra* note 9, at 307; Macey & Haddock, *supra* note 8, at 361.

125. See Harold Mulherin, *Comment to Thomas H. McInish & Robert A. Wood, Competition, Fragmentation, and Market Quality*, in THE INDUSTRIAL ORGANIZATION AND REGULATION OF THE SECURITIES INDUSTRY 74, 77 (Andrew W. Lo ed., 1996) (stating that improved market quality

C. *Scope of ATS Definition*

An alternative trading system is now defined with a two part test under *Regulation ATS* as any system that: 1) meets the definition of an exchange; and 2) but does not perform self-regulatory functions, set rules governing conduct outside the system, or discipline members.¹²⁶ The definition is constructed so that any system which performs self-regulatory functions does not have the option of registering under *Regulation ATS* and evading full treatment as an exchange.¹²⁷ So any system which would meet the definition of an ATS but for the fact that it performs self-regulatory functions must register as an exchange.¹²⁸ Any ATS can choose to register as either an exchange or an ATS.¹²⁹ But the SEC can still require an exchange without self-regulatory features which chooses to register as an ATS to also register as an exchange through a catch-all provision if it finds such action to be in the public interest.¹³⁰

D. *Key Elements of Regulation ATS*

The requirements for alternative trading systems subject to *Regulation ATS* contain nine parts.¹³¹ However, it is immediately apparent that two parts are both key and controversial as two-thirds of the pages are dedicated to two elements: market transparency and fair access.¹³² The requirement of membership in a self-regulatory organization (SRO) is also arguably a major element—since that is the SEC’s method of assuring that an audit trail exists.¹³³ The other components are things such as notice, security standards, inspections, recordkeeping, reporting, and confidentiality.¹³⁴ These are all relatively minor ancillary provisions which will not be dealt with in order to focus on transparency, access, and SRO membership.

Transparency refers to the public’s ability to see the best quote available.¹³⁵ Suppose that the highest quoted bid in the NASDAQ system

would be brought about by “the invisible hand of the market rather than the visible, and clumsy, hand of the SEC”).

126. See *Regulation ATS*, *supra* note 1, at 70859.

127. See *id.*

128. See *id.*

129. See *id.*

130. See *id.* at 70857.

131. See *id.* at 70844.

132. About two-thirds of the pages (12 of 18) laying out the regulation deal with these two items. See *id.* at 70863-80.

133. See *id.* at 70863.

134. See *id.* at 70844.

135. See O’HARA, *supra* note 10, at 252.

is fifty and the lowest quoted ask is fifty and a quarter. One investor might enter a limit order to sell at fifty and an eighth or higher, which would be a better price to the seller than the fifty offered by the dealer. Other potential buyers might be interested in buying at fifty and an eighth but are deterred from entering an offer given the quoted ask of fifty and a quarter. If the limit order sitting between the spread were to be transparent to the public, it is possible that the market would function better by providing higher volume, faster execution, and more information about price.

The NASDAQ market is in the process of phasing in new order handling rules to require dealers to publicly display limit orders which better their quotes.¹³⁶ This is improving transparency, but still does not deal with the situation in which a price-improving limit order is entered into an alternative trading system which is not displayed publicly. The primary intent of *Regulation ATS* is to make such orders transparent to the public.¹³⁷ Under *Regulation ATS*, alternative trading systems will have to publicly display to the whole world orders in covered securities (essentially all exchange-listed and NASDAQ securities) which are displayed to more than one system subscriber if the system has five percent of the trading volume in the security.¹³⁸

The second key element of *Regulation ATS* is to provide "fair" access to publicly displayed quotes.¹³⁹ Under certain conditions, an ATS must allow nonsubscribers to trade against publicly displayed orders on equal terms with subscribers.¹⁴⁰ This would appear to remove much of the benefit of subscribing to an ATS and could be a serious setback to those who would seriously threaten the order flow to the NYSE and NASDAQ.¹⁴¹ The interesting twist in the regulation is that the fair access requirement only applies when the ATS has attained five percent of the trading volume in a security.¹⁴²

136. See *Limit Order Display Rule*, *supra* note 48.

137. See *Regulation ATS*, *supra* note 1, at 70847 (stating that it is in the public interest to require certain systems to integrate their orders into the public quote stream).

138. See *id.*

139. *Id.*

140. See *id.* at 70870-71.

141. For example, dealers need to build up or lower their inventory. Whenever they do this through the use of public orders, they run the risk of trading against an informed trader, possibly an officer of the corporation, with superior knowledge about the company's outlook. This raises their risks and costs and requires a larger spread to cover the costs. If the dealers could setup their own ATS which would be accessible only to the dealers, they could eliminate this risk and trade amongst themselves at lower costs and a lower spread than is available to the public. In a competitive environment, these cost savings would be passed along to the public. *Regulation ATS* effectively prohibits accomplishing this.

142. See *Regulation ATS*, *supra* note 1, at 70865 (requiring integration of these orders into the public quote). Any order integrated into the public quote is required to be accessible. See *id.* at 70869.

While the SEC has provided some rationale for requiring access in general, it has not provided a clear rationale for not requiring access for lower market shares and requiring it for higher market shares, nor has it explained the magic behind the five percent threshold.¹⁴³ A good guess is that the SEC recognizes the cost burden imposed by providing access to nonsubscribers of the systems with small market share, but “fair” for systems with a high market share.¹⁴⁴ Of course this structure appears to penalize success. Furthermore, the SEC appears to suggest that it really does not know what the appropriate threshold is and that it will play around with the threshold in the future.¹⁴⁵ This is obviously an extremely clumsy method of policy making. A further irony is that this could actually promote market fragmentation. Many small systems, possibly with the same owner, can operate without providing access—but two large systems would have to provide access.

A final element of the fair access requirement is access to membership in the ATS.¹⁴⁶ This part of the access requirement applies when the trading volume threshold is met for four of the previous six months.¹⁴⁷ The requirement comes into play once an ATS attains twenty percent of the volume in a covered security.¹⁴⁸ At that point, the ATS must provide objective standards for membership which are to be applied in a non-discriminatory manner.¹⁴⁹ In other words, a very successful ATS, such as Instinet, will have to open its doors and allow competitors to become members. The effect of this requirement is to destroy the ability of a large system to maintain any property rights in intangible capital and hence destroys incentives to make significant investment in the creation of intangible capital.¹⁵⁰ Consider the following historical observation:

The prices on financial exchanges arise only because of the effective operation of the exchanges. Furthermore, the exchanges themselves represent a process that evolves in response to technological innovations via the contracting

143. *See id.* at 70867 (discussing public comment and SEC response over the five percent threshold).

144. *Cf. id.* at 70867 (“[T]he Commission believes that those alternative trading systems with less than five percent of the volume would not add sufficiently to transparency to justify the costs associated with linking to a market.”).

145. *Cf. id.* at 70873 n.245 (“The Commission intends to monitor the impact and effect of these fair access rules . . . and will consider changing these rules if necessary . . .”).

146. *See id.*

147. *See id.*

148. *See id.*

149. *See id.*

150. *Cf. Mulherin et al., supra* note 73, at 611 (“The courts recognized the property right in the quotes and the importance of the property right in providing the incentives to develop the quotes.”).

allowed by the courts in response to those innovations. Indeed, the courts have recognized the necessity for legal innovation when dealing with the contracts and prices of financial exchanges. The courts made new precedent by considering abstract items such as quotes on financial instruments to be property. By allowing the exchanges to establish rights to such property, they enabled the exchanges to reap the gains from technological innovation and thereby promoted the growth of exchanges in the United States.

. . . Financial innovation arises from stronger definition of property rights¹⁵¹

The third key element of *Regulation ATS* is the requirement for membership in an SRO.¹⁵² The purpose of this is to assure that surveillance systems exist for the ATS.¹⁵³ This is not unreasonable, but the method chosen puts an ATS in the precarious position of having to become a member of an SRO run by a competitor or having to accept full-blown treatment as an exchange.¹⁵⁴

III. THE POTENTIAL BENEFITS OF FRAGMENTED (PARALLEL) MARKETS

There are at least two significant benefits which can arise from the existence of parallel securities markets. First, the existence of parallel markets can result in competition between the markets to build a better mousetrap.¹⁵⁵ This competition creates incentives for investment. Real resources will be invested in price discovery, new technology, and better rules.

Second, parallel markets permits specialization in which different markets are structured to the varying needs of different clienteles:

[I]t seems unreasonable to argue that best execution requires executing trades at prices drawn from other trading structures, ignoring that each trading structure provides a different vector of execution of attributes and services a different clientele. If alternative markets provide other benefits to traders, then

151. *Id.* at 626.

152. *See Regulation ATS, supra* note 1, at 70863.

153. *See id.*

154. *See id.* ("The Commission understands some alternative trading systems may have concerns about SROs abusing their regulatory authority for competitive reasons. While the Commission understands that SROs operate competing markets and, therefore, have potential conflicts of interest in overseeing alternative trading systems . . .").

155. *See Harris, supra* note 68, at 270 ("[M]arket structures compete to serve diverse traders.").

focusing narrowly on the trade prices misses the property that trade execution is a multi-dimensional process.¹⁵⁶

There are trade-offs between different dimensions of market making and some markets could be better at providing immediacy of trading while others could be better at reducing adverse selection costs.¹⁵⁷ In fact, there have been quite a few empirical economic studies demonstrating that different market structures work better for different participants in contrasting environments.¹⁵⁸

A. *Competitive Incentives to Invest in Technological Development*

The standard assumption which generates the result that a centralized market leads to superior pricing and liquidity over fragmented markets is that the price setting process is provided by a Walrasian auctioneer.¹⁵⁹ In other words, *it is assumed that the technology underlying the marketplace is fixed.*¹⁶⁰ This is a convenient simplifying assumption in developing an economic model to provide a first approximation for studying certain aspects of market making; however, it is an assumption which is clearly not true and is critical with respect to other aspects of market making.¹⁶¹ This assumption takes both the number (indeed, the existence) of markets and the structure of the markets as exogenous and is clearly useless when one wishes to endogenize markets and investigate the dynamic nature of market development.¹⁶² Indeed, discussing markets with no costs is not very useful other than as the roughest first approximation to assist in understanding the potential gains from trading.¹⁶³

Transaction costs exist, and technology frequently changes these

156. Macey & O'Hara, *supra* note 18, at 220.

157. *See id.* at 218 ("Exchanges in competition with one another, and that vary in the provision and cost of information, also vary in other key factors such as liquidity. This leads competing markets to attract different market participants.") (footnote omitted).

158. *See* Aggarwal & Angel, *supra* note 36, at 8; Michele LaPlante & Chris J. Muscarella, *Do Institutions Receive Comparable Execution in the NYSE and NASDAQ Markets? A Transaction Study of Block Trades*, 45 J. FIN. ECON. 97, 98 (1997) (stating that the structure of the NYSE provides institutions more liquidity for large block transactions); Marc R. Reinganum, *Market Microstructure and Asset Pricing: An Empirical Investigation of NYSE and NASDAQ Securities*, 28 J. FIN. ECON. 127, 137 (1990) (stating that the structure of the NASDAQ market provides more liquidity to small firms than the structure of the NYSE, but this is not true for large firms).

159. *See* O'HARA, *supra* note 10, at 4 (describing the fiction of the Walrasian auction and the resulting equilibrium price).

160. *See id.*

161. *See id.* at 6 ("The question of how prices are set thus takes on a complexity far removed from the simplicity of the Walrasian auctioneer.")

162. *See id.*

163. *See* COASE, *supra* note 71, at 7-8.

costs.¹⁶⁴ Technological development has always changed securities markets significantly and is certain to continue to do so.¹⁶⁵ The SEC admits as much when it notes, "Market participants have incorporated technology into their businesses to provide investors with an increasing array of services, and to furnish these services more efficiently, and often at lower prices."¹⁶⁶ Obviously more services at lower costs is good and technological development within financial markets should therefore be encouraged rather than discouraged.

A historical treatment of several technological developments in securities markets is provided by Mulherin, Netter, and Overdahl.¹⁶⁷ Professor Mulherin and his colleagues investigate the invention of the stock price ticker and the telegraph providing wide dissemination of price quotes; the development of exchanges trading standardized equity options; and recent innovations in financial engineering including the development of hybrid securities.¹⁶⁸ The analysis demonstrates that the technology underlying financial markets is not fixed.¹⁶⁹ Furthermore, markets have incentives to invest in building a better mousetrap if their property rights in price quotes are protected.¹⁷⁰ Poorly conceived regulatory rules can of course impede these incentives.¹⁷¹

Technological improvements in economic models which price securities, such as the development of the Black-Scholes option pricing model,¹⁷² have resulted in the wide-spread realization that securities can easily be replicated in liquid, developed, free markets.¹⁷³ For example, one can create a position identical to holding a share of stock by purchasing a call option on the stock, selling a put option on the stock, and investing the present value of the strike price in a riskless security.¹⁷⁴ Thus, even if all equity trading were centralized, market fragmentation will still exist in that

164. See Stoll, *supra* note 13, at 41 (noting that investors are paying the salaries of 430,000 securities industry employees and the cost of significant computer and communication equipment).

165. See *id.* at 48 (stating that trading costs have been declining over time).

166. *Regulation ATS*, *supra* note 1, at 70845.

167. See Mulherin et al., *supra* note 73.

168. See *id.* at 592.

169. See *id.* at 626 (applying historical lessons from technological innovation in financial markets to current regulatory policy).

170. See *id.* at 643-44. The restrictive regulation of financial exchanges can be expected to hinder their innovative capacity. See *id.*

171. See *id.* "The attempted restriction of the actions of exchanges that stems from a misunderstanding of their role in the economy can be expected to raise transaction costs and thereby hinder, rather than promote, the innovative capacity of financial exchanges." *Id.*

172. See Fischer Black & Myron Scholes, *The Pricing of Options and Corporate Liabilities*, 81 J. POL. ECON. 637, 637 (1973).

173. See JOHN HULL, *OPTIONS, FUTURES, AND OTHER DERIVATIVE SECURITIES* 325-26 (1989) (explaining how a riskless security can be created from derivative and underlying securities).

174. See *id.* at 116.

equivalent securities can (and will) be traded in other markets.¹⁷⁵ These markets could well exist off-shore and beyond the reach of the SEC.

It is also important to note that, “all of the extensive technological innovations in market mechanisms during the past thirty years have been initiated by the regional exchanges, the third-market dealers, and the proprietary trading systems (PTS), with the NYSE matching innovations to avoid loss of market share Dominant competitors have little incentive to innovate.”¹⁷⁶

The concept that better rules can result from parallel markets also has support in the work of Professor Romano.¹⁷⁷ Romano persuasively argues that securities regulation would be more effective if federal securities laws were modified to permit a menu approach under which firm could elect to have their securities regulated under the laws of any of the fifty States or the District of Columbia.¹⁷⁸ Competitive rulemaking, it is argued, results in more rapid discovery of effective solutions to specific problems and migration towards the efficient solution.¹⁷⁹ Professor Romano notes that such competition of corporate charters has resulted in uniformity among corporate charters while enabling the development of improved laws.¹⁸⁰ The same reasoning can be applied to parallel markets self-regulation. If parallel markets are not only allowed to exist, but encouraged to exist through the protection of their property rights in price quotes and incentives to invest in price discovery, they will also have incentives to compete in the arena of self-regulation and migrate towards the most efficient self-regulation.

Regulation is obviously not the only arena in which financial markets could compete. Competition could also occur in designing the optimal rules for priority of orders, an auction process, etc. It has been argued that “the principal arena for competition is technology, not price.”¹⁸¹

175. See O'HARA, *supra* note 10, at 216 (stating that the ability to trade derivative securities “allows traders to transact virtually identical instruments in multiple markets.”).

176. Thomas H. McInish & Robert A. Wood, *Competition, Fragmentation, and Market Quality*, in THE INDUSTRIAL ORGANIZATION AND REGULATION OF THE SECURITIES INDUSTRY 63, 84-85 (Andrew W. Lo ed. 1996).

177. See Roberta Romano, *Empowering Investors: A Market Approach to Securities Regulation*, 107 YALE L.J. 2359, 2361 (1998).

178. See *id.* at 2361-62.

179. See *id.* at 2427 (stating that “[c]ompetitive federalism harnesses the high-powered incentives of markets to the regulatory state in order to produce regulatory arguments compatible with investors’ preferences”).

180. See *id.* at 2362, 2427 (stating that “such regulatory competition does not harm, and in all likelihood benefit, investors”).

181. McInish & Wood, *supra* note 176, at 84.

B. Adverse Selection

Another assumption underlying the simplified economic model which generates the result that a centralized market is efficient is the assumption that all investors have the same objective function and the same information.¹⁸² Trading occurs because of different endowments and life-cycle needs. The SEC's *Regulation ATS* seems to be firmly rooted in the belief that this assumption is true. If the greatest fallacy underlying the "market fragmentation is bad" theory is that trading is costless, the greatest part of that fallacy is that there are no adverse selection costs. There is a great deal of economic literature on the significant adverse selection costs faced by dealers in market making activity.¹⁸³

It is absolutely critical that the policy makers understand that different players have differing motives for trading and differ in the needs which they want fulfilled when trading.¹⁸⁴ There is a good deal of economic theory and empirical evidence on this issue, which suggests that market fragmentation improves market performance for this reason. One recent model is provided by Hagerty and McDonald, which generates the conclusion that

brokerage crossing markets that are fragmented and competitive provide better prices for (uninformed) customers than do monopolistic brokerage crossing markets The authors formally prove that competitive brokers who can discriminate between informed and uninformed traders will, and must, charge different commissions to the two types of traders This conclusion is very important because such discrimination can be effected only in a fragmented market. It cannot be provided in an anonymous central market to which all orders are routed.¹⁸⁵

As Hagerty and MacDonald write, "The market in which all participants trade in one place at one price is not necessarily the market preferred by all traders and there is no compelling reason for thinking it best in any sense."¹⁸⁶

A recent empirical investigation of fragmentation is presented by McInish and Wood.¹⁸⁷ They construct matched portfolios of stocks in a

182. See Harris, *supra* note 68, at 272.

183. See, e.g., Mark Klock, *Mainstream Economics and the Case for Prohibiting Inside Trading*, 10 GA. ST. U. L. REV. 297, 329-30 (1994) (explaining how asymmetric information decreases liquidity and citing some of the economic literature to that effect).

184. See Harris, *supra* note 68, at 274.

185. Hagerty & McDonald, *supra* note 4, at 56-57.

186. *Id.* at 61.

187. See McInish & Wood, *supra* note 176, at 63.

manner so as to ensure that the attributes of the portfolios are identical except for the fragmentation of order flow, for which the differences are maximized.¹⁸⁸ They find that the quality of the market is superior where the order flow is fragmented and conclude that fragmentation does not harm market quality while the ensuing competition brought about with fragmentation benefits society.¹⁸⁹

There is extensive literature on estimating the costs of adverse selection and finding the costs to be significant.¹⁹⁰ Trading structures which can reduce the ability of informed traders to pick off uninformed traders can provide a benefit for which some investors would be willing to pay. Obviously, large adverse selection costs affect the cost of market making, and that cost must be passed along to consumers or the market makers will go out of business.¹⁹¹ Additionally, adverse selection will also result in lower gross expected returns to uninformed investors, even ignoring transactions costs.¹⁹²

Notwithstanding cites to the economics literature documenting that adverse selection creates a cost to trading, one might wonder how this is so since if one sells a share of stock at a given moment at a price of fifty dollars and the price rises shortly thereafter to sixty dollars, it might seem not to matter whether the person who bought the stock knew the price was going up. The explanation is contained in averaging across transactions. When one trades with an uninformed trader, sometimes the price will move favorably and sometimes unfavorably, but on average it will even out. However, when trading with informed traders the price will never move favorably and there will be no averaging out. Unexpected losses from unfavorable price movements after trading with uninformed traders will be washed out by unexpected gains from trading with uninformed

188. *See id.* at 72.

189. *See id.* at 72-73.

190. *See, e.g.,* Lawrence R. Glosten & Lawrence E. Harris, *Estimating the Components of the Bid/Ask Spread*, 21 J. FIN. ECON. 123, 123 (1988); Ji-Chai Lin et al., *Trade Size and Components of the Bid-Ask Spread*, 4 REV. FIN. STUD. 1153, 1153 (1995).

191. *See* Stoll, *supra* note 29, at 266 ("In competitive markets, the bid/ask spread reflects the cost of providing dealer services—for dealers will not stay in business unless they are compensated for their costs, and new dealers will enter if profits are too great.")

192. *See* Klock, *supra* note 183, at 334-35 (stating that adverse selection lowers expected returns and thereby lowers the level of public investment and raises the cost of capital which is why a prohibition on insider trading is good). It should be noted that some readers might confuse informed traders with sophisticated traders. Professional fund managers and NASDAQ market makers are sophisticated traders who are knowledgeable about the market; however, they are not what is meant by informed traders. Informed traders are those with information which is not publicly available, such as corporate officers. Note that informed trading is not necessarily illegal inside trading if the information is not material. For example, an officer who knows his managerial skills are better than what the market thinks and buys stock on that knowledge would be an informed trader but not an illegal trader.

traders. Unexpected losses from trading with informed traders will not be similarly offset however, and these losses create costs to the dealers which they must recoup.

The possibility of adverse selection also impacts trading in a more subtle way. Instinet provides reduced adverse price movement by not revealing the identity of the party wishing to trade or the amount they wish to trade.¹⁹³ It also has been the case that the order was not revealed to the whole universe, and there could be good economic reasons for desiring this. Specifically, it is well understood that placing a limit order or making a firm quote involves giving a free option to those with superior information.¹⁹⁴ For example, if someone knows the price of a security is about to move up, and I have placed a limit order to sell at a limit price which is below the inside market maker's ask, and my limit order is visible to the world, that informed trader can exercise the option I have given up and hit my order. The option has value which means giving it up entails costs. The more people the option is given to, the higher the potential expected costs. Giving the option to a smaller subset of the universe lowers these costs. To the extent that dealers and institutions could save costs, these costs could be passed along to the public in the form of lower charges for services. *Regulation ATS* effectively takes away this method of achieving cost reductions.

IV. ALLEGED HARM OF FRAGMENTED MARKETS

A. *Inferior Prices*

It has been alleged that the proliferation of ATS was leading to market fragmentation and that market fragmentation then resulted in worse prices.¹⁹⁵ It is not clear what is meant by worse prices since a worse price for a buyer is a better price for a seller. There are two reasonable interpretations. One is that it leads to slower speed of adjustment—i.e., when the equilibrium price of a security changes in response to new information the market price is in disequilibrium for a longer time.¹⁹⁶ The other interpretation is that worse prices refers merely to different prices in different markets.

The idea that market fragmentation might result in slower price adjustments is interesting. Economic theory tends to focus on analysis of

193. See Macey & O'Hara, *supra* note 18, at 195 n.17.

194. See O'HARA, *supra* note 10, at 197.

195. See *Regulation ATS*, *supra* note 1, at 70845 (alleging that ATS operating outside of the national market system deny public investors the best prices).

196. See O'HARA, *supra* note 10, at 270 ("How well and how quickly a market aggregates and impounds information into the price must surely be a fundamental goal of market design.")

equilibrium¹⁹⁷ since it is difficult to model disequilibrium.¹⁹⁸ Economic theory has little to say about price adjustment paths much less the speed at which prices adjust.¹⁹⁹ Indeed, in many simplified economic models transaction costs are assumed to be zero and disequilibrium never exists. “[One] consequence of the assumption of zero transaction costs, not usually noticed, is that, when there are no costs of making transactions, it costs nothing to speed them up, so that eternity can be experienced in a split second.”²⁰⁰

Nevertheless, the idea that fragmentation might slow price dynamics does raise several interesting empirical questions. First, do prices in fact adjust more slowly? Second, if so, how much more slowly (for example, does it take two minutes instead of one minute for equilibrium to occur after an earnings announcement)? Third, does the magnitude of any slower price adjustment warrant any concern?

These empirical questions are more difficult to address than one might imagine. The difficulty is that it is not generally possible to observe price adjustment because we only observe a market price when a transaction takes place.²⁰¹ Many securities do not trade that frequently, so prices adjust without being observed.²⁰² While quoted prices might be observed on a continuous basis, the quotes do not represent prices of actual transactions.

Nevertheless, there have been studies which allow us to indirectly address these empirical questions. Empirical economic research has found that securities markets are integrated rather than fragmented.²⁰³ In other words, where parallel markets exist, the information contained in transactions in one market is quickly reflected in the other markets so that all the markets effectively operate as a single market.²⁰⁴ These studies do

197. See *id.* at 4. Equilibrium is defined as any state which will persist indefinitely unless disturbed. See *id.* Prices which are “too” high (or too low) are not equilibrium prices because they cannot persist since the quantity supplied will exceed (or be less than) the quantity desired. See *id.*

198. See *id.* (stating that no trading is allowed outside of equilibrium).

199. See Lawrence R. Glosten & Paul R. Milgrom, *Bid, Ask and Transaction Prices in a Specialist Market with Heterogeneously Informed Traders*, 14 J. FIN. ECON. 71, 71-72 (1985) (stating that “[c]lassical price theory . . . has little to say about the dynamics of matching buyers and sellers”); O’HARA, *supra* note 10, at 270 (“One difficulty is that the notion of dynamic efficiency, or the speed with which prices reflect full information, is not well defined.”).

200. COASE, *supra* note 71, at 15.

201. See O’HARA, *supra* note 10, at 175 (“Only actual trades give useful information on the direction of any signal . . .”).

202. Cf. *id.* at 176 (“[E]mpirical investigations using transaction data will be biased because examining only transaction prices ignores the information content contained in the nontrading intervals.”).

203. See McInish & Wood, *supra* note 176, at 85 (“As we and others have found, the satellites do contribute meaningfully to price discovery.”).

204. See *id.* at 63 (“[M]ost competitors are informationally linked, so that all participants observe each others’ trades and quotes within seconds of their execution.”).

not tell us whether prices adjust a little more slowly in parallel markets, but they do tell us that prices do not adjust much more slowly. Otherwise the data would not support a finding that the markets are integrated.²⁰⁵

Even assuming then that market fragmentation might lead to a few extra minutes of price adjustment, it is difficult to imagine that this could have a measurable impact on long-term capital formation and the overall economy.²⁰⁶ In any case, there is no data which suggests that parallel markets lead to even a few additional minutes of disequilibrium. Furthermore, the technological developments which we are experiencing in the speed of communications suggests adjustment periods can only get shorter.²⁰⁷ There is no basis for any concern along this line of inquiry which would justify expansive and expensive new regulations.

The other interpretation one can put on worse prices—merely that securities might trade at different prices simultaneously—appears to be the Commission's primary concern.²⁰⁸ This is a misplaced concern. First of all, every commodity trades at different prices simultaneously. People simultaneously purchase gasoline, apples, bicycles, and other products of identical quality at differing prices at the same time without governmental intervention. If prices are much higher or lower in one market, people cease to buy in that market or the market runs out of the commodity.²⁰⁹ If the prices are slightly different, transactions might continue to take place without any apparent need for government regulations attempting to centralize order flow. The point is that markets must and do correct themselves.²¹⁰ Second, even if ATS were banned outright, securities would be simultaneously traded at different prices. This is because while a broker has a fiduciary duty to find a customer with the best available price, it has been settled in the case law that this obligation is fulfilled by giving the customer the inside quoted price.²¹¹ Thus if a broker-dealer gets a customer's order to buy and another customer's order to sell, and the inside quotes are \$20 and \$20.25, the broker-dealer can (and in practice does) sell

205. See Arshanapalli & Doukas, *supra* note 5, at 264 (“[U]nder normal trading conditions, the stock and futures markets comprise virtually one market.”).

206. Cf. O'HARA, *supra* note 10, at 270-71 (stating that it is unclear how fast prices should adjust to achieve the maximum benefits to society).

207. Cf. Kenneth D. Garbade & William L. Silber, *Dominant and Satellite Markets: A Study of Dually-Traded Securities*, 61 REV. ECON. & STAT. 455, 455 (1979) (hypothesizing that as communication costs approach zero, fragmented markets approach perfect integration).

208. See *supra* note 7.

209. See Macey & Haddock, *supra* note 8, at 341 (stating that orders will naturally gravitate to the market providing the best price).

210. See Harris, *supra* note 68, at 285 (“Arbitrageurs . . . ensure that asset prices are always approximately equal whenever and however the asset is traded.”).

211. See *In re Merrill Lynch Sec. Litig.*, 911 F. Supp. 754, 771 (D. N.J. 1995).

to the one customer at \$20.25 and buy from the other at \$20.²¹² In other words, the broker-dealer can internalize the two orders without making them accessible to each other and can transact against them at different prices. This conflict of interest would seem to be a more serious problem than regulation of ATS, but the SEC is not attempting to discourage this practice based on its exemption of internal systems from the new regulatory framework.²¹³ Therefore it is difficult to understand why trading at one price on NASDAQ and another price on Instinet is viewed as a serious problem.

The SEC does have anecdotal (but not statistically significant) evidence that the same broker-dealer sometimes provides different quotes on the same side of a transaction in different markets.²¹⁴ In other words, the broker-dealer might display a quote showing a willingness to sell at \$20.25 on NASDAQ while displaying another quote showing a willingness to sell at \$20.125 within Instinet. It is claimed that this is unfair.²¹⁵ Yet one has to remember that the markets are structured differently with different rules and different players and that these structural differences can serve a useful economic purpose.²¹⁶ One market is a large anonymous market in which informed players might easily hide.²¹⁷ The adverse selection costs of quoting in such a market are high and must be covered.²¹⁸ A proprietary ATS might just be open to financial institutions which do business with one another on a regular basis. In this case adverse selection costs are low, and given competition between fragmented markets the cost savings will be passed on to the customers.²¹⁹ There is nothing malevolent or unfair about this.

Much of the SEC's concern about providing equal access is at least superficially directed at protecting the comparatively small investor.²²⁰ In other words, it is an equity argument. If this is an argument, the "small" investor should be identified. It seems unlikely that the small investor is a starving homeless person needing protection. It seems unlikely that it is even one of the working poor or middle class as these individuals save through financial intermediaries such as mutual funds. The likely scenario is that the small investor is the affluent, well-educated individual who has

212. *See id.* at 770. The plaintiffs' allegations underlying the case were that the defendants did this. *See id.*

213. *See Regulation ATS, supra* note 1, at 70854.

214. *See id.* at 70845.

215. *See id.* ("these systems have no obligation to provide investors a fair opportunity").

216. *See Harris, supra* note 68, at 274-75.

217. *Cf. id.* at 279 (informed traders try to remain anonymous).

218. *See Stoll, supra* note 29, at 267-68.

219. *See id.* at 266 ("[N]ew dealers will enter if profits are too great.").

220. *See Regulation ATS, supra* note 1, at 70865. Commission desires to make best price available to all investors without regard to size or sophistication. *See id.*

chosen to manage his own substantial stock portfolio himself rather than turn it over to a fund manager. It is not at all clear why such people need government protection from the securities industry and why the entire ATS industry should have to bear the substantial costs of *Regulation ATS*. It appears that the SEC is trying to deter specific undesirable transactions by prospectively deterring the entire market when such instances might be more effectively dealt with in another manner.²²¹

The more likely scenario is that the SEC is attempting to protect the order flow of the two dominant players—the NYSE and NASDAQ.

B. *Free Riding*

Another allegation is that when markets are fragmented, there is a free rider problem.²²² One market invests in price discovery while the other markets simply ride for free off the dominant market's quotes. This view is refuted by work cited herein; but if the view were valid it raises the question of whether the better solution is to provide property rights protection to quotes or to encumber ATS with stifling regulation.

In the Coasian spirit, I think that any perceived problems inherent in the competition/fragmentation debate can be mitigated via the allocation of property rights rather than by the extension of the arm of the SEC. What I have in mind is placing more solid property rights to listing in the hands of the listing corporations. Both initial listing decisions as well as additional trading locations would be at the discretion of corporations and would not be co-opted by the SEC's grant of unlisted trading privileges. As Coase has taught us, this clear definition of property rights in listing would internalize the cost-benefit trade-offs involved in the competition/fragmentation debate and would lead to the optimal number of trading locations for all publicly traded securities. The nice thing about the property-rights approach is that the amount of off-board trading for each security is determined by the invisible hand of the market rather than the visible, and clumsy, hand of the SEC.²²³

Tying the hands of innovative entering markets could well be a cure worse than the disease. It has long been accepted in economics that regulation creates entry barriers which disadvantage new firms at the

221. Cf. Macey & Haddock, *supra* note 8, at 346 (pointing out the availability of private causes of action under Rule 10b-5 as an effective enforcement mechanism).

222. See McInish & Wood, *supra* note 176, at 85 ("Accusing satellite competitors of cream skimming and free riding . . .").

223. Mulherin, *supra* note 125, at 77.

expense of established firms.²²⁴ In any case, the empirical evidence supports the position that U.S. equity markets are well integrated, and causality runs in both directions.²²⁵ In other words, while transactions in the dominant markets provide information which impacts prices in the other markets, transactions in the other markets provide information which impacts prices in the dominant markets as well. If the other markets were simply free riding, the causality would only run one direction and statistical analysis of the data would reveal that.

C. *Payment for Order Flow and Fraud*

Yet another issue which has been raised is that market fragmentation leads to questionable practices such as payment for order flow.²²⁶ In other words, an ATS pays a broker to send orders to the ATS for execution. The broker can do this because the ATS agrees to execute the orders at a price at least as good as the national best bid or offer, thus the broker has not violated any legal duty.²²⁷ While there does not appear to be anything improper about such behavior, especially given that brokers engaging in this, disclose it to their customers, and given that customers can direct brokers to execute their orders in a specific manner on a specific exchange, there seems to be some unarticulated concern that this practice is wrong. Of course in a competitive environment, any payments for order flow ultimately get passed on to the customers in the form of lower costs.

These issues have resulted in a flurry of academic research on payment for order flow and preferencing. The studies conclude that these practices have not negatively affected market quality.²²⁸ Furthermore, there are models which actually demonstrate that these practices perform a useful function by giving brokers an incentive to separate the orders of informed traders from uninformed traders.²²⁹ The SEC's desire to give everyone access to the best possible price is in effect a policy of giving informed traders their best possible price at the public expense.²³⁰

224. See Roger G. Noll, *Economic Perspectives on the Politics of Regulation*, in HANDBOOK OF INDUSTRIAL ORGANIZATION 1253, 1266 (Richard Schmalensee & Robert D. Willig eds. 1989) (“[A]ll forms of regulation are likely to retard entry by new firms.”).

225. See McNish & Wood, *supra* note 176, at 85.

226. See Lightfoot et al., *supra* note 82, at 1.

227. See Macey & O’Hara, *supra* note 18, at 207.

228. See Battalio et al., *supra* note 67, at 970 (arguing that market fragmentation occurring from this activity does not adversely affect market quality); Battalio, *supra* note 81, at 341 (arguing that trading costs did not increase when Bernard L. Madoff Investment securities began purchasing order flow); Hansch et al., *supra* note 86, at 2-3 (explaining that these practices do not result in inferior execution, and dealer profits are zero); Lightfoot et al., *supra* note 82, at 4 (stating that there is no evidence that these arrangements have damaged market quality).

229. See Harris, *supra* note 5, at 578.

230. Cf. O’HARA, *supra* note 10, at 271 (suggesting that “society might prefer to give

One more complication raised by the issue of market fragmentation is that ATS might be used as a tool to manipulate the market in violation of Rule 10b-5.²³¹ Indeed, the SEC cited instances of this occurring in justifying *Regulation ATS*.²³² However, in the instances cited, there was a remedy—prosecution of those who violated Rule 10b-5.²³³ The SEC did not allege that undetected Rule 10b-5 violations are occurring due to the rise of ATS. To the extent that an ATS could be used as a tool to manipulate the market, it would seem more efficient to deal with such instances via prosecutions after the fact than to prospectively deal with inchoate violations by tying the hands of new entrants and forcing a common market structure on everyone.

D. Price Discrimination

The final concern with fragmented markets is that they create an opportunity for market makers to charge different prices for the same item at the same time.²³⁴ One could make a plausible argument that this constitutes illegal price discrimination under Robinson-Patman. The economic rationale underlying anti-price discrimination policies is that a monopolist charging different prices to different customers is able to extract more of the gains of trade leaving less consumer surplus.²³⁵ Books and courses on antitrust law tend to deemphasize Robinson-Patman, noting that few government initiated actions are brought now.²³⁶ However, the law is not dead,²³⁷ and the SEC's *Regulation ATS* could be characterized as merely an attempt to circumvent the statutory defenses of Robinson-Patman in order to put an end to lawful price discrimination. There are two reasons why any actual price discrimination occurring by market makers quoting different prices is unlikely to be illegal. First of all, price discrimination is permitted when there is a cost justification.²³⁸ Since a

uninformed traders more rents and informed traders less").

231. See *Regulation ATS*, *supra* note 1, at 70845.

232. See *id.* at 78045 n.5.

233. See *id.*

234. See *id.* at 70845.

235. See EDWIN MANSFIELD, *MICROECONOMICS* 277 (1988).

236. See ERNEST GELHORN, *ANTITRUST LAW AND ECONOMICS IN A NUTSHELL* 405 (1986); see also A.D. NEALE, *THE ANTITRUST LAWS OF THE UNITED STATES OF AMERICA* 467 (1970) ("An element of 'underdogery' has been noted in the enforcement of the [antitrust] prohibitions No branch of the law is more open to this type of criticism than that dealing with price discrimination . . .").

237. A WESTLAW search on Robinson-Patman during the 1990s revealed at least eight cases in which the government published a consent agreement, rule, proposed rule, or guide related to Robinson-Patman in the Federal Register. See, e.g., Federal Trade Commission File No. 0061 (Aug. 1, 1996), 61 F.R. 40229 (discussing the Robinson-Patman Act).

238. See 1 AMERICAN BAR ASSOCIATION, *ANTITRUST LAW DEVELOPMENTS (THIRD)* 420-26

component cost of market making is adverse selection and adverse selection costs differ across markets,²³⁹ it is easy to raise a cost justification defense. Secondly, the only reason price discrimination is illegal is to prevent *monopolists* from extracting additional consumer surplus.²⁴⁰ Market makers operate in a competitive environment.²⁴¹ Other market makers offer exactly the same security, and there are virtually no barriers to market making so market makers must compete with potential entrants as well as incumbent competitors.²⁴² The SEC could refer the quotation of different prices to the Department of Justice for action. If the government cannot make a price-discrimination case because the price discrimination which occurs is neither illegal nor undesirable from a public policy perspective, it does not seem reasonable for the SEC to attack such pricing in a roundabout way through regulation which will impose costs on the industry, create barriers to competition, and force the same model on everyone thereby deterring innovation in the development of markets.²⁴³

V. ANALYSIS OF SEC'S RULEMAKING

The SEC's new regulatory framework for ATS is focused on transparency and fair access; however, it is clear that the regulatory environment does not reflect economic reality.²⁴⁴ The SEC's underlying idea is clearly that there should be a centralized market where every trader has a fair opportunity to get the best price.²⁴⁵ There are a plethora of problems with this simplistic view. These problems are grouped into six general categories. First, the SEC has based its regulatory framework on several incorrect assumptions and has attempted to force the same (inadequate) economic model on all financial market participants. Second,

(1992).

239. See Stoll, *supra* note 29, at 267-68.

240. See MANSFIELD, *supra* note 235, at 275 (stating that the concept of price discrimination is raised solely in the context of monopoly).

241. See Sunil Wahal, *Entry, Exit, Market Makers, and the Bid-Ask Spread*, 10 REV. FIN. STUD. 871, 872 (1997).

242. See *id.* ("The NASDAQ National Market (NNM) is characterized by a virtual absence of barriers to entry.").

243. See McInish & Wood, *supra* note 176, at 91. "In our opinion if the PTSs were able to compete without any regulatory obstacles, the costs of trading services presently paid by the institutional buy-side to the sell-side would be reduced by 50-75 percent." *Id.*

244. Cf. Jonathan 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, 1010 (1990) ("We find that regulatory initiatives taken in the wake of the market decline of October, 1987 completely misperceive the modern economic reality . . .").

245. Cf. Macey & O'Hara, *supra* note 18, at 189 (referring to SEC efforts as "[w]ell-meaning attempts to mandate best execution as a consumer-protection device run counter to attempts to make markets less centralized and more competitive").

the SEC is attempting to deal with the fact that some individual transactions might occur simultaneously at different prices by tying the hands of all markets and expecting everything else to remain constant. This is inefficient, and the policy is based on partial equilibrium analysis—in other words, it ignores the unintended, but very real, consequences of the policy and fails to identify the full costs of regulation. Third, the new regulatory framework is inconsistent with the historical role of the SEC. Fourth, the SEC's justifications for the new regulation are inadequate on their face. Fifth, the SEC has ignored economic evidence. Finally, the SEC is attempting to do that which it cannot define. It has an unmanageable task and is doomed to snarl the evolution of U.S. financial markets.

A. *Erroneous Assumptions*

There are several erroneous critical assumptions implicit in the SEC's analysis. The SEC has historically disliked fragmentation and assumed that fragmentation is necessarily bad.²⁴⁶ As indicated earlier though, the economic model which would support this view, however, is based on unrealistic assumptions. "[T]he concept of a Walrasian auction is implicit in many models of financial market equilibrium . . . it is clear that it fails to provide an adequate description of the trading structure of real markets."²⁴⁷

[T]he Walrasian auctioneer does not take any trading position, but serves only to redirect quantities from sellers to buyers. Moreover, this auction activity is costless, so there are no frictions in the exchange process. The equilibrium price thus emerges as the natural outcome of an unseen trading game in which buyers and sellers costlessly exchange assets.²⁴⁸

If there were no costs to trading, financial markets would not have developed.²⁴⁹ The reason for their existence is that they have evolved to facilitate transactions at lower (but not zero) cost than individuals could.²⁵⁰ In reality, there are costs to trading stemming from several sources.²⁵¹

246. See Garbade & Silber, *supra* note 207, at 456 (noting that the SEC is concerned with fragmentation "despite an absence of evidence on the degree of fragmentation"); Macey & Haddock, *supra* note 8, at 341 ("The SEC apparently thinks that [fragmentation] is necessarily bad."). Macey and Haddock question the SEC's belief that fragmentation will hurt investors. See *id.*

247. Garbade & Silber, *supra* note 207, at 456.

248. O'HARA, *supra* note 10, at 4.

249. See COASE, *supra* note 71, at 7.

250. See *id.*

251. See Stoll, *supra* note 29, at 266.

There are order processing costs.²⁵² Liquidity, or immediacy, is provided by a market maker.²⁵³ This ability to obtain immediacy at low (but not zero) cost requires that the market maker carry an inventory.²⁵⁴ Carrying an inventory requires capital, on which the market maker must earn a competitive rate of return.²⁵⁵ It also requires that the market maker take on risk from different sources.²⁵⁶ One risk is the risk associated with general volatility in prices.²⁵⁷ Another risk is the risk associated with trading with an informed trader.²⁵⁸ These risks create costs to the market maker for which he must be compensated.²⁵⁹ The optimal way for society to ensure that the costs are minimized is through competition between parallel markets.²⁶⁰ Market makers who cannot cover their costs will go out of business.²⁶¹ Competition provides the incentive to keep costs at a minimum because those market makers who do not minimize their costs will not be able to cover their costs in a competitive environment.

This raises another of the critical assumptions implicit in the SECs framework: that technology is fixed. Technology related to the speed of communications, order processing, clearing, record keeping, and the like is clearly evolving and so goes the evolution of financial markets, including the rules under which they operate. In other words, the rules themselves are endogenous—or an outcome—to the process, not merely an input to it. Competition is the tool of evolution which ensures adaptation and cost minimization to survive.

The usual economic view of markets is as a place where buyers and sellers come together and trade at a common price, the price at which supply equals demand. Securities exchanges are often singled out as excellent examples of markets that operate this way. In fact, however, trading on exchanges takes place over time, and some institutional arrangements are necessary to help match buyers and sellers whose orders arrive at different times.²⁶²

Part of market-microstructure research is about how these institutional

252. *See id.*

253. *See id.*

254. *See id.*

255. *See id.* at 266-67.

256. *See id.*

257. *See id.* at 267.

258. *See id.* at 267-68.

259. *See id.* at 266.

260. *See id.*

261. *See id.*

262. Glosten & Milgrom, *supra* note 199, at 71.

arrangements affect the performance of the market and how the rules might evolve in response to changes.

One way in which technological progress is encouraged is through the protection of property rights in intellectual capital. Professor Mulherin and his colleagues have persuasively argued that price quotes are a form of intellectual property which were historically protected, and that a return to the application of this view, rather than the view that exchanges are monopolists which should have their quotes taken away in the public good, will promote more competition and innovation in the financial sector.²⁶³

Part of the problem with these assumptions is not only that they are in error, but that they are an effort to treat different kinds of market participants in the same manner and force the same model on everyone. Dealers do not trade for the same motives as public investors.²⁶⁴ Informed traders do not trade for the same motives as uninformed traders.²⁶⁵ Suppliers of liquidity do not trade for the same motives as demanders of liquidity.²⁶⁶ This creates opportunities for parallel markets to compete for order flow on different performance attributes using product differentiation.²⁶⁷ Forcing the same economic model on everyone stifles competition.²⁶⁸ An analogy might be a government regulation requiring car dealers to compete only on price and not on interest rates, service departments, product brands, or features. Even if such a regulation were to succeed in preventing different people from paying different prices for the exact same car at the same time, it would clearly have unintended effects on the volume of cars sold, the prices at which cars sold, the service obtained, and the satisfaction of all participants in the car market.

Yet another unrealistic critical assumption implicit in the SEC's analysis is the view that all traders have the same information and trade for the same reasons.²⁶⁹ This causes a particularly significant deviation between theory and reality. A somewhat technical explanation is provided in the financial economics literature:

The presence of traders with superior information leads to a positive bid-ask spread even when the specialist is risk-neutral and makes zero expected profits. The resulting transaction prices convey information A bid ask spread

263. See Mulherin et al., *supra* note 73, at 643-44.

264. See generally Harris, *supra* note 68, at 275-89 (describing differences in traders and the differing trading structures preferred by traders).

265. See *id.* at 278-79.

266. See *id.* at 282.

267. See *id.* at 270.

268. Cf. *id.* at 274 ("Any regulatory efforts to impose a consolidated system risk choosing the wrong system and/or stifling innovations.").

269. See *id.* at 272.

implies a divergence between observed returns and realizable returns. Observed returns are approximately realizable returns plus what the uninformed anticipate losing to the insiders.²⁷⁰

In other words, rules which enable parties to distinguish between informed and uninformed traders and direct the corresponding orders to different markets can lower costs (and raise returns) and promote social welfare.

B. *Partial Equilibrium Analysis*

A different type of problem with the SEC's framework altogether is that it is an effort to prospectively cure a hypothetical problem. The SEC is concerned that some traders might not get the best price or might offer the best price but not get the trade. While it is certainly true that there have been transactions where a trade was executed at a price other than the best available or not executed when it would have been the best price, there is no evidence that this is a problem requiring government intervention into the way that markets are structured and can evolve. Most people are likely to shop at the store where they expect to get the best price for the service desired knowing that on some occasions they will pay more than they might have elsewhere. Over time, volume tends to gravitate towards the better stores and away from the worse ones.²⁷¹ The government does not jump in to regulate retail sales just because someone pays a higher price one day at one of the better stores.

The problem with such a government action, is that it is based on partial equilibrium analysis.²⁷² In other words, the focus is on one transaction in isolation holding everything else constant. The SEC is concerned that a customer might pay "too much" in an isolated transaction. As a result, the SEC has constructed a set of regulations aimed to prevent this. An economist utilizing *general* equilibrium analysis would recognize that in equilibrium everything else can not be held constant.²⁷³ When the rules of the market are changed, there will be other effects as well.²⁷⁴ For example, it is well known that displaying a quote or limit order is giving

270. Glosten & Milgrom, *supra* note 199, at 71.

271. *Cf.* Macey & Haddock, *supra* note 8, at 341 (stating that orders will gravitate towards the best markets).

272. *See* Klock, *supra* note 183, at 304-09 (discussing an example of how partial equilibrium analysis has been used to generate other faulty policy recommendations for securities regulation).

273. *See id.* at 330-32 (discussing how general equilibrium analysis should be used to generate better policy recommendations).

274. *See id.* at 330-31 (explaining that if insider trading were permitted, there would not simply be a redistribution between insiders and other, but a shrinking of the whole pie available for distribution as outsiders scale back their investment due to the lower expected returns).

a free option to the world and informed traders.²⁷⁵ Therefore, the display and access requirements of *Regulation ATS* have the effect of forcing some traders to give free options to a larger universe than they otherwise would have had to. An unintended consequence of this could be that market makers will simply quote wider spreads, reducing the value of the free options the government has forced them to give up. Then traders, knowing that the wide spreads do not reflect true prices have to spend more time searching for the best available and true price. Social welfare is worse. To take the analysis to a higher level, the fact that all market makers are forced to focus competition along the same dimension—price—can reduce incentives to compete in other dimensions, reduce incentives to invest in innovation, and in the extreme could drive markets offshore. There are consequences when governments try to regulate a price.

C. *The SEC's Historical Role in Financial Market Regulation*

Davis and Lightfoot provide an historical overview on the SEC's views towards competition and fragmentation noting that in the early 1960s, the SEC, while beginning to show concern over fragmentation, nevertheless concluded that the benefits resulting from competition between markets exceeded any detrimental effects from not consolidating orders.²⁷⁶ Then, in 1971 the SEC acknowledged a shift in its historic position favoring consolidation of the market.²⁷⁷ This more recent position is entirely at odds with the SEC's historical philosophy.²⁷⁸ The historic philosophy of the SEC has been one of non-paternalism.²⁷⁹ The SEC saw its role as being one of protecting the integrity of the market place, but not one of passing judgment.²⁸⁰ In moving to consolidate the market, the SEC is making a judgment about the optimal structure of the market rather than allowing the structure to evolve naturally.

275. See Macey & O'Hara, *supra* note 18, at 215.

276. See Jeffrey L. Davis & Lois E. Lightfoot, *Fragmentation Versus Consolidation of Securities Trading: Evidence from the Operation of Rule 19c-3*, 41 J.L. ECON. 209, 210 (1998).

277. See *id.*

278. Cf. Macey & O'Hara, *supra* note 18, at 217 ("The introduction of these rules reflects a shift in focus toward a more pro-active regulator role. The NASD, which opposed the Order Execution Rules, has urged the SEC to allow market forces to improve competition, rather than embark on wholesale market redesign through regulation.").

279. See MARC I. STEINBERG, *SECURITIES REGULATION 1* (1986) ("Undoubtedly, the central focus of the securities laws is that of disclosure, thereby providing shareholders and the marketplace with sufficient information to make relevant decisions and to be apprised of significant developments.").

280. See *id.* at 15 ("It should be understood that the securities laws were designed to facilitate informed investment analyses and prudent and discriminating investment decisions *by the investing public*. It is the investor, *not* the Commission, who must make the ultimate judgment . . .").

Professors Easterbrook and Fischel have some relevant thoughts on a different topic. In reviewing the corporate charter, they note that although we have fifty-one different jurisdictions writing corporate laws, those laws have tended to evolve towards each other and are more similar than dissimilar.²⁸¹ Corporate law is essentially enabling rather than disabling.²⁸² Managers are protected by the business judgement rule.²⁸³ Managers actions are essentially unconstrained.²⁸⁴ The question which arises from these observations is, why regulate the manner in which investors can place an order for the transfer of stock with more scrutiny than the manner in which managers can waste investors' assets? For that matter, one broker might charge a commission twenty times greater than another broker, but that has been deregulated rather than regulated. Why should the SEC be concerned that an ATS might have provided a price 1/16th better but been unavailable to a customer when the SEC is not concerned that the customer might have lost more than that paying more than the lowest available brokerage fee?

D. *The SEC's Ceremonial Whoosh-Whooshing*

Regulation ATS is full of long phrases, but short on substance and persuasive reasoning. The document asserts that the new regulations will "strengthen public markets for securities," but it is not clear what that means.²⁸⁵ In context, such a statement could mean increasing the profitability of incumbent financial markets. One should question whether this is a suitable objective for public policy. The document also refers to a policy of having "equally regulated" markets, but again it is not clear what this means or why it is desirable.²⁸⁶ It is certainly feasible that markets which are structured differently, have different rules, different technology, and different participants require different regulations. At one point, the document mentions "competitive restrictions on access to market information and other systems," but it is not clear what the term means or how competitive restrictions differ from noncompetitive restrictions or simply restrictions.²⁸⁷

281. See FRANK H. EASTERBROOK & DANIEL R. FISCHEL, *THE ECONOMIC STRUCTURE OF CORPORATE LAW* 5 (1991) (explaining that states compete to offer rules which work best).

282. See *id.* at 2.

283. See *id.*

284. See *id.* at 2-3.

285. *Regulation ATS*, *supra* note 1, at 70845.

286. *Id.*

287. *Id.* at 70858.

Regulation ATS presents facts as if they were *per se* evil. For example,

Through Instinet, market makers were able to quote prices better than those made available to public investors. This private market developed only because the activity on alternative trading systems is not fully disclosed, or accessible, to public investors. Moreover, these trading systems have no obligation to provide investors a fair opportunity to participate in their systems or to treat their participants fairly.²⁸⁸

As stated earlier, if a business quotes different prices to different customers there is no apparent need for the government to jump in with massive regulations. It is widely reported in the popular press the U.S. military occasionally pays \$400 for a \$20 hammer or toilet seat. Why then so much concern that an affluent investor might pay \$40.625 for a share which could have been obtained for \$40.50? One might make a plausible argument that this constitutes illegal price discrimination.²⁸⁹ If such a case could be made, it should be pursued under those laws. If not, then the new regulation is merely an attempt to circumvent the defenses contained under the anti-price discrimination law. Once again, there are at least two reasons why the activity is likely not illegal price discrimination. First of all, the economic theory underlying price discrimination is that a price discriminating monopolist is able to extract more of the gains from trade with consumers, and this is considered undesirable.²⁹⁰ However, financial markets are certainly not monopolists in the current competitive environment. Secondly, price discrimination is permitted under the law if there is a cost justification for charging different prices.²⁹¹ The adverse selection related costs of market making are likely to be different in different markets and could justify different quotes.²⁹² The academic literature contains numerous empirical studies estimating the actual costs of market making which are due to adverse selection.²⁹³ No studies exist estimating the difference in these costs between ATS and exchanges since data from ATS are not available, but it would be possible for the SEC to

288. *Id.* at 70845.

289. The law against price discrimination is commonly called the Robinson-Patman Act. It has been argued that the law is not used much anymore. See GELLHORN, *supra* note 236, at 405. However, a search on WESTLAW revealed eight Robinson-Patman publicly published consent orders in the past ten years.

290. See MANSFIELD, *supra* note 235, at 277.

291. See *id.* at 275.

292. See Hagerty & McDonald, *supra* note 4, at 36-37.

293. See, e.g., Glosten & Harris, *supra* note 190, at 123 (significant portion of spreads for NYSE stocks is due to adverse selection).

collect such data and determine whether the costs are different before declaring a *per se* evil requiring regulation of the entire industry.

In general, *Regulation ATS* appears to be based on wild speculation. The SEC asserts that trade on multiple markets “may also create misallocations of capital, widespread inefficiency, and trading fragmentation if markets are not coordinated.”²⁹⁴ Of course the beauty of free markets as opposed to centrally coordinated markets is that arbitrage creates powerful incentives to eliminate inefficiency and allocate resources correctly.²⁹⁵ This is known as the “invisible hand” and explains the lack of coordination among New York grocery stores in ordering the necessary amounts of fresh produce daily.²⁹⁶ Government regulation in the absence of any market imperfections can serve only to interfere with the process and promote misallocations.²⁹⁷

Finally, in one of the better displays of ceremonial whoosh-whooshing,²⁹⁸ the SEC, in fulfilling its statutory obligation to consider the effects of rules on competition and not impose unnecessary burdens on competition against the public interest, blindly asserts its belief that the rules “would not likely impose any significant burden on competition not necessary or appropriate in furtherance of the Exchange Act.”²⁹⁹

294. *Regulation ATS*, *supra* note 1, at 70858. *But see* Harris, *supra* note 68, at 285 (“Markets can consolidate even if no coordinated mechanism [exists] . . . Proprietary electronic routing systems . . . make coordinated intermarket routing systems unnecessary.”).

295. *See* Harris, *supra* note 68, at 274.

296. *See* RICHARD G. LIPSEY & PETER O. STEINER, *ECONOMICS* 50 (1981) (describing the price system as an invisible hand which “allows decision making to be decentralized under the control of millions of individual producers and consumers but nonetheless to be coordinated”).

297. *See* Harris, *supra* note 68, at 274.

298. *Cf.* *Old Colony Bondholders v. New York, N.H. & H.R. Co. R.R.*, 161 F.2d 413, 450 (2d Cir.), *cert. denied*, 331 U.S. 859 (1947) (Frank, J., dissenting in part).

If . . . the Commission is sustained in this case, and, accordingly behaves similarly in future cases, then its conduct will indeed be a mystery. Its so-called “valuations” will then be acceptable, no matter how contrived. In that event, it would be desirable to abandon the word “valuation”—since that word misleadingly connotes some moderately rational judgment—and to substitute some neutral term, devoid of misleading associations, such as “valuation,” or perhaps better still, “woosh-woosh.” . . . Then no one would be foolish enough to believe that the figures in a Commission plan necessarily have anything to do with deliberation, but everyone would know that the figures [and conclusions] might well have been the product of . . . mystagogues.

Id. (Frank, J., dissenting in part).

299. *Regulation ATS*, *supra* note 1, at 70910.

E. *Economic Evidence*

The SEC has completely ignored economic evidence on the relevant issues. First of all, there are numerous studies which indicate that when financial securities trade on multiple markets, those markets operate as a single market. Obviously individual transactions will sometimes occur at different prices close in time, but the evidence is that statistically significant price differentials do not persist over time. This is exactly what one would expect. Indeed, the economic literature sometimes takes it as given that markets are fully integrated. Professor Harris, writing about the relation between technology and trading systems, states:

Now that trading information is more widely disseminated, traders no longer need to go to central exchanges. They now go to whatever trading system best serves their specific needs, *confident* that prices in that market segment will reflect liquidity conditions in all other segments. New trading systems have proliferated as entrepreneurs, exchanges, brokers, and dealers compete to satisfy the liquidity demands of diverse traders.³⁰⁰

One area which the SEC has clearly overlooked is the research on preferencing.³⁰¹ By definition, preferencing can only occur in a fragmented market. The economics literature contains numerous studies on the effect of preferencing concluding that preferencing (and hence fragmentation) does not damage U.S. equity markets in actuality.³⁰²

Parallel markets provide at least three useful functions: customization; competition; and technological innovation. The economics literature has demonstrated how parallel markets can evolve to provide different services, such as separating informed and uninformed order flow.³⁰³ The literature has also demonstrated that competition between markets is beneficial, and that technological innovations tend to come from competition.

The economics literature also provides a cost justification for price

300. Harris, *supra* note 68, at 272 (emphasis added).

301. See Robert Bloomfield & Maureen O'Hara, *Does Order Preferencing Matter?*, 50 J. FIN. ECON. 3, 3 (1998) (explaining that preferencing allows brokers "to direct order flow to a specific dealer regardless of that dealer's quoted prices").

302. See Battalio et al., *supra* note 67, at 970 (arguing that market fragmentation occurring from this activity does not adversely affect market quality); Battalio, *supra* note 81, at 341 (stating that trading costs did not increase when Bernard L. Madoff Investment Securities began purchasing order flow); Hansch et al., *supra* note 86, at 2-3 (explaining that these practices do not result in inferior execution, and dealer profits are zero); Lightfoot et al., *supra* note 82, at 4 (stating that there is no evidence that these arrangements have damaged market quality).

303. See Hagerty & McDonald, *supra* note 4, at 37.

discrimination between publicly accessible markets and proprietary markets in the form of reduced adverse selection costs. Indeed, the fact that adverse selection contributes to a significant portion of transaction costs is so widely known that it is cited outside the financial economics literature.³⁰⁴ The economics literature further demonstrates that when capital is misallocated, economic forces provide incentives to reallocate resources unless government regulation interferes.

There have also been experimental studies published in the economics literature whereby experimental markets were created to determine the effects of fragmented-related activity such as preferencing. The experimental results have found that preferencing and payment for order flow did not lead to a deterioration in market quality.³⁰⁵

The SEC might defend its position by noting that there was opportunity for public comment on *Regulation ATS*.³⁰⁶ The SEC has two files containing letters from the public.³⁰⁷ These files contained seventy-six letters and virtually all were from interested parties in industry.³⁰⁸ Only three letters appeared to be from academics, and none of those from economists.³⁰⁹ It is not reasonable to expect that disinterested academic economists who receive several thousand dollars a day for their time will come out of the woodwork to volunteer time to do a literature search and review for a federal agency. The SEC has a staff of highly qualified economists who are capable of searching and reviewing the economics literature.³¹⁰ The literature is written by disinterested objective academics who merely wish to study and answer interesting questions about the

304. See generally Maribeth Coller & Teri L. Yohn, *Management Forecasts and Information Asymmetry: An Examination of Bid-Ask Spreads*, 35 J. ACCT. RES. 181, 181 (1997).

305. See generally Lucy F. Ackert & Bryan K. Church, *Bid-Ask Spreads in Multiple Dealer Settings: Some Experimental Evidence*, 28 FIN. MGMT. 75, 75 (1999) (explaining that spreads narrow in multiple dealer markets when individuals have the ability to compete using alternatives to price such as payment for order flow); Christopher G. Lamoureux & Charles R. Schnitzlein, *When It's Not the Only Game in Town: The Effect of Bilateral Search on the Quality of a Dealer Market*, 52 J. FIN. 683, 683 (1997).

306. Cf. *Regulation ATS*, *supra* note 1, at 70845.

307. See *id.* at 70845 n.2-3.

308. See Public Files S7-16-97 & S7-12-98 available for inspection in the SEC Public Reference Room.

309. See *id.*

310. Indeed, there is some evidence that the left arm of the agency does not know what the right arm is doing. The SEC published a report on the practice of preferencing—of which a large part was apparently written by the SEC's own economists—which carefully describes the substantial adverse selection costs arising from trading securities. See Securities and Exchange Commission, *Report on the Practice of Preferencing* (visited Oct. 19, 1999) <<http://www.sec.gov/news/studies/prefrep.htm>>. In that report, the Commission concluded that preferencing has had a positive effect on financial markets *because* it has furthered the fragmentation of order flow away from the NYSE. See *id.* at 5.

structure of markets. When all of the public commentary comes from interested parties in industry, much support is given to the view that the SEC is pandering to political pressure.³¹¹

F. *Doing the Undefinable*

One very large problem with the SEC's new regulatory framework which tries to make the best price available to all is that the best price is an amorphous concept which can probably not be defined.³¹² Is it the best price at the instant the trade is executed? Or is it the best price at the instant the order is placed? In a dynamic market one has to consider that the rules will affect the behavior of the participants which could in turn affect the volatility of prices and the time to execute transactions.³¹³ If a trade is made at a price which is better than any available at that instant, but much worse than the price available one minute earlier or one minute later, is it a good price? If markets are allowed to compete in different dimensions, one market might provide a guaranteed execution at a price agreed to while another might provide guaranteed price improvement.³¹⁴ In other words, one market might simply guarantee an execution inside the NBBO, but not at any particular price as the NBBO could change in an instant. Another market might guarantee execution at a known price. Some investors might be willing to accept the risk that a better price could have been out there somewhere, but not want to spend time looking for it and risk that prices move in an unfavorable direction before it is found.³¹⁵ Others might be willing to accept such a risk.

Another problem in defining best price occurs when large transactions are made. If five-thousand shares are sold should one look at the price for the first one-hundred in the order, the last one-hundred, the average price, or the price of each group of one-hundred (all fifty lots) in determining whether the trader had a shot at the best price. It is well known that some systems do better than others for large transactions.³¹⁶ An additional problem occurs when one considers different priority rules. Does the first order in time with the best price get the transaction? This is not an easy

311. See Macey & Haddock, *supra* note 8, at 361.

312. See Macey & O'Hara, *supra* note 18, at 189.

313. See O'HARA, *supra* note 10, at 270-71.

314. NASDAQ's small order execution system (SOES) guarantees execution at a specific price. Bernald L. Madoff Investment Securities guaranteed execution at better than the NBBO when the bid-ask spread was greater than an eighth. See Battalio, *supra* note 81, at 343.

315. See Harris, *supra* note 68, at 282.

316. See LaPlante & Muscarella, *supra* note 158, at 98 (stating that the structure of the NYSE provides institutions more liquidity for large block transactions); Reinganum, *supra* note 158, at 137 (stating that the structure of the NASDAQ market provides more liquidity to small firms than the structure of the NYSE, but this is not true for large firms).

question if someone wants to sell two-hundred shares at market and one person has a limit order to buy one-hundred shares at fifty and 1/16th while another person put in a limit order to buy two-hundred shares two seconds later at fifty, and the market maker quotes were forty-nine and 7/8ths and fifty and 1/8th. How should the order be filled? It is not easy to state who had the best price, the one quoting fifty and 1/16th with no depth (only one-hundred shares) or the one quoting fifty with more depth. The SEC analysis assumes the former order is the best and must be displayed and made available, but it simply is not clear. Competition occurs in many dimensions besides price, including depth.

In the words of one eminent commentator, "Enforcing a single trading venue in a global market is a task worthy of King Canute, and its pursuit undoubtedly detracts from the ability of the market to meet all traders' needs."³¹⁷

VI. CONCLUSION

On the surface, the impetus for *Regulation ATS* appears to be a fundamental distrust of free markets coupled with a disdain for the fact that some dealers in stocks have simultaneously quoted different prices in public and private markets. Economic theory suggests that in a competitive environment these price differentials could not persist without a cost justification. There is a substantial amount of literature suggesting that the benefits of competition between alternative markets outweigh the benefits of consolidating order flow into a single market system. There is also a substantial amount of literature suggesting that fragmentation of trading has not damaged the performance of U.S. equity markets. The strong tendency of free markets is to evolve to provide the lowest cost possible for the attributes desired by the investing public.

Segmented securities markets are characterized by two types of competition: traders compete for best price within a given market structure, and market structures compete to serve diverse traders. Unfortunately, policies that would maximize the benefits from one type of competition can decrease the benefits obtained from the other type of competition. For example, if all trades in a given security were consolidated by regulation into the same market, it would be easy to find the best price for the security, but it would be difficult or impossible for innovative trading systems to develop and be adopted. Public policies therefore

317. O'HARA, *supra* note 10, at 269.

may need to balance the benefits obtained from these two types of competitions.³¹⁸

The SEC's approach is totally unbalanced.

Hence, the SEC has mandated expansive new regulation which will impose additional burdens on the industry, particularly to competitive threats to the established exchanges and NASD. The regulation will also eliminate the ability of proprietary trading systems to continue to provide certain benefits unless they move off-shore. The regulatory burdens increase significantly for large systems, but the SEC has sent clear signals that the volume thresholds it has established are subject to change. This uncertainty in itself is a deterrent to potential entrants. "[A]bsent a better understanding of either the markets or the transactions they are regulating, the SEC has little choice but to choose a process and hope that it results in the desired objective."³¹⁹ This obviously presumes that the SEC knows its objective and that the objective is desirable.

The thesis of this Article is that consideration of economic theory, economic reality, and statistical analysis of data would lead to better policy decisions than reliance on stories from industry professionals. Whether the SEC is behaving in a manner which is politically rational, or whether the SEC just has a "clumsy hand," the result is the same. The regulatory burdens adopted favor the incumbents at the expense of the new arrivals and stifle competition, innovation, and the optimal cost-minimizing evolution of financial markets.

318. Harris, *supra* note 68, at 270.

319. Macey & O'Hara, *supra* note 18, at 198.

