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Jonathan Macey

Hideki Kanda

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Recommended Citation

Jonathan Macey and Hideki Kanda, *Stock Exchange as a Firm: The Emergence of Close Substitutes for the New York and Tokyo Stock Exchanges*, 75 Cornell L. Rev. 1006 (1990)

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THE STOCK EXCHANGE AS A FIRM: THE EMERGENCE OF CLOSE SUBSTITUTES FOR THE NEW YORK AND TOKYO STOCK EXCHANGES

Jonathan Macey†
and Hideki Kanda††

INTRODUCTION

Although the importance of well-developed secondary trading markets for securities is widely known,¹ the economic function of stock exchanges is one of the most poorly understood elements of modern economic life. This lack of understanding of the nature and purposes of organized stock exchanges became particularly obvious in the wake of the stock market crash of October, 1987. On that day, the Dow Jones Industrial Average of New York Stock Exchange listed securities dropped 508 points, and the New York Stock Exchange ("NYSE") lost \$1 trillion in value.² Similar declines affected other world markets, including the Tokyo Stock Exchange ("TSE").³ In the wake of this rapid decline in value, the New York Stock Exchange was singled out for blame as though the price at which securities are bought and sold on that market, unlike others, was determined by the market participants themselves, rather than by more fundamental economic factors, such as new information about the firms whose securities are being bought and sold, or changes in macroeconomic conditions.⁴

† Professor of Law, The University of Chicago.

†† Associate Professor of Law, The University of Tokyo; Visiting Professor of Law, University of Chicago, Fall 1989.

We thank Morris Mendelson and Roberta Romano for their helpful comments and suggestions. An earlier version of this paper was presented at a seminar at the University of Tokyo. We thank the participants at that workshop, as well as the participants in the law and economics workshops at the University of California, Berkeley, and at the University of Pennsylvania for helpful comments and advice.

¹ The purpose of a well-developed secondary market is to provide liquidity for investors. See Jonathan R. Macey & David D. Haddock, *Shirking at the SEC: The Failure of the National Market System*, 1985 U. ILL. L. REV. 315, 325-27.

² REPORT OF THE PRESIDENTIAL TASK FORCE ON MARKET MECHANISMS 1 (1988) [hereinafter BRADY REPORT].

³ 1989 TOKYO STOCK EXCHANGE FACT BOOK 84 [hereinafter TSE FACT BOOK].

⁴ Jayne Levin, *Market Reform: Picking up the Pieces—and the Pace*, INVESTMENT DEALERS DIG., June 5, 1989, at 14 (describing the various reform proposals and regulatory initiatives offered in Congress and by special "blue ribbon" panels formed to study the October market break); see also Norman S. Poser, *Repairing The Big Board*, N.Y. Times,

A central premise of this Article is that market "reform" in the form of new regulation is doomed to failure until the economic functions of organized exchanges are better understood. Of particular importance are the mechanisms by which prices are set within the exchanges, and the degree of competition that exchanges face for the various services they offer. Thus the purpose of this Article is to articulate the economic underpinnings of organized stock exchanges.

Against this theoretical background we evaluate the rules that govern secondary trading on the NYSE and the TSE. While the focus of this Article is on these two exchanges, we believe much of the analysis can be generalized to provide insights as to the operation of other exchanges, and to the operation of the over-the-counter markets as well.⁵

We show that the organized stock exchanges operate in exceedingly competitive environments. Once the nature of the services provided by the exchanges is fully understood, it becomes clear that a variety of market devices that previously seemed wholly unrelated to the exchanges are in fact close substitutes for those offered by the

Dec. 16, 1987, at A35, col. 1; Steve Swartz, *LaBranche, Lawrence O'Donnell & Co. To Surrender 3 Market Making Roles*, Wall St. J., Feb. 23, 1988, at 58, col. 5; Steve Swartz, *Spear Leeds Ends Market-Making Role for J.P. Morgan in Wake of Investigation*, Wall St. J., Jan. 8, 1988, at 9, col. 1 (specialists' activity related to market collapse); see generally TSE FACT BOOK, *supra* note 3 (promoting the Tokyo Exchange).

⁵ In this Article we define a stock exchange as a body that provides a centralized forum in which stock trades are undertaken. Such a forum provides the means by which the market prices of stocks can be openly established and through which price information can be produced and disseminated to users of the market.

The term over-the-counter market traditionally has referred to trading done off the floor of an organized stock exchange. As technology has developed, the distinction between the over-the-counter securities markets and the organized stock exchanges has become blurred. In the United States, the over-the-counter market increasingly has come to resemble the securities exchanges, as prices of securities are quoted and traded on an electronically linked automated quotation and trading system called the "NASDAQ" system. NASDAQ is an abbreviation for National Association of Securities Dealers Automated Quotations, a computerized trading network organized by the National Association of Securities Dealers. See *TO LIST OR NOT TO LIST, EUROMONEY & CORPORATE FINANCE* 43 (N. Osborne ed.) (Supp. Nov. 1986); James L. Hamilton, *Marketplace Organization and Marketability: NASDAQ, The Stock Exchange, and The National Market System*, 33 J. FIN. 487 (1978). But 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, 895 (1981) (an important difference between the stock exchanges and the over-the-counter markets is that exchanges provide a central place for trading where "all customers' buy and sell orders meet and the highest buy order is matched against the lowest sell order in an auction-type process").

As computer linkages have made U.S. over-the-counter and stock exchanges increasingly similar, it is no surprise that the chairman of a major Australian stock exchange predicted that exchange trading floors would be phased out by the end of the century. See *THE WORLD'S TRADERS GET OFF THE FLOOR* 154 (P. Fallon ed. May 1985) (quoting James Bain of the Sydney Stock Exchange).

exchange. Thus we show the exchanges face significant competition for the services they offer. While we find that the NYSE faces considerably more competition for listings of American firms than the TSE does for listings of Japanese firms, both exchanges operate in a competitive environment and market themselves accordingly.

While many observers seem to view stock exchanges as philanthropic institutions organized to act in the public interest, this is not the case. Stock exchanges are self-interested economic organizations.⁶ These firms supply services to listing companies in exchange for fees. The fees come in the form of an initial listing fee and an annual fee, which can be as high as \$500,000 on the NYSE, and even higher on the TSE.⁷ Firms are not required to have their shares listed on an exchange. Nonetheless, firms with publicly traded stock have shown a strong interest in having their shares traded on an exchange. Consequently, it stands to reason that the exchanges must be offering something of value in order to command such high fees.

We show that the product offered by organized securities exchanges, which is called a "listing," can be unbundled into four component parts. Specifically, organized exchanges provide listing

⁶ The NYSE is organized as a for profit company. The TSE was organized as a for profit company until the occupation by Allied forces after World War II, when it was reorganized as a non-profit membership organization. See A PROFILE OF THE TOKYO STOCK EXCHANGE: HISTORY, STRUCTURE AND A VARIETY OF SERVICES 2 (undated monograph).

⁷ On the NYSE, the initial listing fee is \$36,800, and the annual fee ranges from a minimum of \$14,740 to a maximum of \$500,000. NEW YORK STOCK EXCHANGE, LISTING STANDARDS AND PROCEDURES FOR DOMESTIC CORPORATIONS [hereinafter NYSE LISTING STANDARDS]. The TSE "requires listed companies to shoulder part of various costs for the operation of its business, including the supervision of listed securities, in the form of listing fees." TSE FACT BOOK, *supra* note 3, at 37. In addition to an original listing fee of 5 million yen plus .045 yen per share, annual listing fees on the TSE begin at 300,000 yen (about \$2100.00) for the first 10 million of a firm's shares and increase incrementally according to the following formula:

Out of the number of shares listed:

- (1) 300,000 yen for 10 million shares or less;
- (2) 26,000 yen for each 2 million shares or fraction thereof in excess of 10 million shares to 40 million shares;
- (3) 26,000 yen for each 4 million shares or fraction therefor in excess of 40 million shares to 120 million shares;
- (4) 26,000 yen for each 10 million shares or fraction thereof in excess of 120 million shares to 200 million shares;
- (5) 26,000 yen for each 100 million shares or fraction thereof in excess of 200 million shares to 1 billion shares;
- (6) 26,000 yen for each 200 million shares or fraction thereof in excess of 1 billion shares to 2 billion shares;
- (7) 26,000 yen for each 400 million shares or fraction thereof in excess of 2 billion shares.

(For foreign issuers, the listing fee is one-half of the amount derived by the formula above.)

companies with: (1) liquidity, (2) monitoring of exchange trading, (3) standard form, off-the-rack rules to reduce transactions costs, and (4) a signalling function that serves to inform investors that the issuing companies' stock is of high quality. In Part I of this Article we discuss each of these attributes. We show that, while organized exchanges were historically the sole providers of these services, over time a wide variety of close substitutes has developed. While these close substitutes generally are not exchanges themselves, they nevertheless directly compete with the organized exchanges. Due to the emergence of these substitutes, it no longer is appropriate to view the organized exchanges as monopolies. Instead, they should be perceived and regulated as members of a highly competitive industry.

In Part II of the Article we apply the arguments made in Part I to the NYSE. We find that regulatory initiatives taken in the wake of the market decline of October, 1987 completely misperceived the modern economic reality under which that Exchange is operating. In particular, these initiatives assumed that the NYSE actually provides liquidity to listed firms. In fact, the NYSE merely serves as a conduit through which trading by broker-dealers, institutional investors, and others provide liquidity in an increasingly automated market environment. We also find that current regulations, which require exchange specialists to maintain fair and orderly markets, also misperceive the economic role played by exchanges.

In Part III of the Article we apply the arguments made in Part I to the TSE. We find that the internal organization and regulatory structure of that Exchange are better suited to modern trading practices and investor needs. In particular, unlike the specialists on the NYSE, the *saitori* members of the TSE, who are roughly analogous to exchange specialists on the NYSE, are only obliged to match orders, and are prohibited from trading on their own account.⁸ Rather, consistent with economic reality, investors and other market participants expect that secondary market liquidity on the TSE will be provided as a by-product of the rivalrous competition that exists among the broker-dealers with trading privileges on the exchange. Thus, we find that in Tokyo the regulatory environment more accurately reflects economic reality than does the situation in the United States.

I

THE STOCK EXCHANGE AS A FIRM

The most widely understood function of an organized exchange

⁸ See *infra* text accompanying notes 160-66.

is to provide liquidity for listing firms.⁹ In the past, securities exchanges were the dominant forum for securities trading. Although over-the-counter markets have existed for a long time, communications technology was too primitive to allow securities transactions to take place without face to face contact among traders.¹⁰ More recently, however, securities transactions can take place in a variety of ways that do not require that buyers and sellers physically meet.¹¹ While these technological developments have not rendered the organized exchanges obsolete by any means, they have allowed for the emergence of over-the-counter and other computer-linked securities markets as substitute providers of liquidity.¹² These markets, particularly the National Association of Securities Dealers Automated Quotations ("NASDAQ"), have deprived the exchanges of

⁹ See generally ROBERT W. HAMILTON, *FUNDAMENTALS OF MODERN BUSINESS* 417 (1989); S. ROBBINS, *THE SECURITIES MARKETS: OPERATIONS AND ISSUES* 33 (1966).

¹⁰ Macey & Haddock, *supra* note 1, at 317.

¹¹ NASDAQ displays updated price quotations on a real time basis on terminals in subscribers' offices. There are three levels of terminals with varying information. Level III terminals are used by market makers who can change or cancel any bid or offer for any stock in which he makes a market. All current bids and offers entered by the market makers are shown at this level. Level II terminals, used by brokers and dealers who do not act as market makers, provide the same information as Level III terminals, but do not allow inputting of bids and offers. Level I terminals, used by salespeople of brokerage firms, provide only an approximate idea of the price at which a security can be bought or sold. When a brokerage firm receives an order from a customer to buy (or sell) a stock that is quoted on the NASDAQ system, it checks the Level I or II screen to ascertain the market maker quoting the best offer (or bid). The firm then telephones the market maker and executes the transaction with him. Thus, the brokerage firm will either act as an agent for its customer and charge a commission, or as a principal and purchase the security for its own account and immediately resell at a price markup to the customer who placed the order. NATIONAL ASS'N OF SECURITIES DEALERS, INC., *NASDAQ AND THE OTC MARKET* 12-22 (1976) [hereinafter *NASDAQ AND THE OTC MARKET*].

"Instinet," owned by Reuters, is a similar system:

Instinet is a real-time, international computerised [sic] market access, information and trading system for [stocks]. It is designed primarily for large institutional users and professional [stock] traders. Instinet users may be located anywhere in the world. . . . All US listed and NASDAQ/NMS [stocks], certain ADRs and UK alpha stocks can be traded on Instinet. . . . Orders are put directly into the Instinet electronic order book. . . . [Order] matching is automatic if bid and offer prices agree. Otherwise, matching can be achieved by anonymous negotiation via the screen.

TOUCHE ROSS MANAGEMENT CONSULTANTS, *MAINTAINING A CENTRAL EQUITIES MARKET* 54 (1989).

¹² Some journalists have observed that the over-the-counter market may be superior to the organized exchanges. See, e.g., Susan Lee, *Off The Boards: Why OTC is Favored Over NYSE*, BARRONS, Sept. 12, 1983, at 42, cols. 1 & 5. An empirical study suggests that NASDAQ is a more efficient organization for marketability of stocks than the NYSE. Hamilton, *supra* note 5, at 502; see also Macey & Haddock, *supra* note 1, at 347-50 (arguing that over-the-counter markets provide liquidity equal to or greater than that provided by organized exchanges).

any significant market power over listing firms.¹³

In addition to offering liquidity, organized stock exchanges have come to offer three other services that listing firms view as valuable. These other functions (monitoring, devising standard form contracts, and lending reputational capital to listing firms) all reduce the agency costs that are endemic to the modern publicly held corporation. As we will discuss later, however, various close substitutes have emerged that directly compete with stock exchanges.

A. Sources of Secondary Market Liquidity

Liquidity is a market characteristic that assures investors that they can promptly purchase or dispose of stock at a price closely related to the market's best estimate of the present value of the future income stream that the stock will generate for investors.¹⁴ Thus, market liquidity is comprised of three elements. The first element is simply that investors must be able to buy or sell stock promptly. Second, liquidity requires that the price at which investors sell their shares be rationally related to the market's existing estimation of the firm's earnings prospects. Such an estimation is considered "unbiased" in the sense that investors are assured that the same market factors and conditions that dictated the initial purchase price for their shares will serve to establish the ultimate sales price. In an illiquid market, the ultimate sales price can be biased downward by artificial conditions, such as the lack of a willing buyer. Finally, the information on stock prices must be produced and disseminated at low cost.

One commentator has defined liquidity as "a market characteristic that enables investors to dispose of or purchase securities at a price reasonably related to the preceding price."¹⁵ But modern finance theory strongly suggests that this definition of market liquidity is erroneous. In particular, the weak form of the Efficient Capital Market Hypothesis, which has been subjected to rigorous empirical scrutiny, has established that current price movements fully reflect any information contained in previous stock prices.¹⁶ The Efficient Capital Market Hypothesis implies that share values already reflect

¹³ Gary C. Sanger & John J. McConnell, *Stock Exchange Listings, Firm Value and Security Market Efficiency: The Impact of NASDAQ*, 21 J. FIN. QUANT. ANALYSIS 1, 22 (1986) (noting that the introduction of NASDAQ in the over-the-counter market has reduced the liquidity advantage provided by the NYSE).

¹⁴ See WILLIAM KLEIN & JOHN COFFEE, *BUSINESS ORGANIZATION AND FINANCE* 272 (1986) (describing how the price of a share of stock is determined).

¹⁵ Poser, *supra* note 5, at 886.

¹⁶ JAMES H. LORIE, PETER DODD & MARY HAMILTON KEMPTON, *THE STOCK MARKET: THEORIES AND EVIDENCE* 56 (2d ed. 1985).

all publicly available information about the underlying companies.¹⁷ Thus stock prices adjust to reflect new information about the earnings prospects of the relevant companies. The definition of liquidity on the stock exchanges should reflect the insights of share price movements gleaned from the Efficient Capital Markets Hypothesis.

Investors value liquidity for two reasons. First, as the costs associated with buying and selling assets go down, such assets become more valuable to investors. Because market liquidity implies that investors can dispose of their shares quickly, it also implies that the transactions costs related to holding such shares are low. In addition to reducing transactions costs, liquidity reduces information costs for market participants. Competition among market professionals in a liquid market "assures even the more ignorant investors that these market prices reflect all the publicly available information about the firms behind the securities."¹⁸ This is because these "ignorant market investors" can rely on the market's price setting mechanism to perform the valuation process that the investor would otherwise have to perform himself in an illiquid market.

Consequently, owners of closely held firms have a very strong incentive to ensure that there will be a secondary market of high quality when they sell their firms' shares to the public because public investors will pay less for shares if they have to trade in an illiquid market after they are issued.¹⁹ Thus initial entrepreneurs who sell stock to the public bear any costs associated with investor concern about future illiquid markets because such investors will heavily discount the price they pay for such shares.²⁰

Firms will therefore select the secondary trading market that is most likely to provide liquidity for their shares. If a particular secondary trading market, such as an organized stock exchange, will be more liquid than a rival market, such as the over-the-counter market, then entrepreneurs will be willing to pay to have their shares listed on that exchange so long as the price that exchange charges for listing is less than the value added from listing.

Firms should be expected to pay an amount equal to the expected aggregate diminution in share price that would result if the entrepreneurs decided against listing. In the remainder of this sec-

¹⁷ See generally Ronald J. Gilson & Reinier H. Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549 (1984); Note, *The Efficient Capital Market Hypothesis, Economic Theory and the Regulation of the Securities Industry*, 29 STAN. L. REV. 1031 (1977) (authored by Christopher Paul Saari).

¹⁸ Macey & Haddock, *supra* note 1, at 325.

¹⁹ See W. KLEIN & J. COFFEE, *supra* note 14, at 213 (discussing illiquidity premium); Poser, *supra* note 5, at 886 ("For the sale of a new issue of securities to succeed, prospective purchasers must have a reasonable assurance of liquidity . . .").

²⁰ Macey & Haddock, *supra* note 1, at 325.

tion, however, we show that market liquidity is largely endogenously determined. Factors such as the rate at which the firm generates new firm-specific information and the number of shares a firm has outstanding will determine whether the market for a firm's shares is liquid or not.²¹ Exogenous factors such as the particular secondary trading market on which a firm's stock is listed will have little, if anything, to do with whether a firm's shares enjoy liquidity.²² Thus, it is unrealistic to require that exchanges or exchange members maintain liquid markets for the firms whose shares they trade, since the factors that cause such shares to be liquid are almost wholly outside of the control of such market participants.

The above discussion indicates that the concept of liquidity is closely linked to the concept of market efficiency. Undeveloped, illiquid, thinly traded securities markets tend to be inefficient, while highly developed, liquid, thickly traded markets tend to be efficient.

1. *Rivalrous Competition Among Market Professionals as a Source of Liquidity*

The reason this correlation between efficiency and liquidity exists is because the same dynamic market forces that cause markets to become efficient also cause markets to be liquid. Specifically, purchasing and selling by relatively well-informed traders causes securities prices to adjust because such trading produces and transmits information about future earnings prospects to the market.²³

These relatively well-informed traders engage in what is best described as "information arbitrage." They engage in a costly search for information that is not already impounded in a firm's share price, and profit by trading on that information. The cost of the search includes not only the actual cost of acquiring the information, but also the costs of developing and retaining the human

²¹ Cf. Homer Kripke, *A Search for a Meaningful Disclosure Policy*, 31 BUS. LAW. 293, 301 (1975) (The variables weighed by accountants in advising potential investors illustrate the various kinds of information that affect the value of shares and "the present worth of future net cash flow.").

²² See also Jeffrey N. Gordon & Lewis A. Kornhauser, *Efficient Markets, Costly Information, And Securities Research*, 60 N.Y.U. L. REV. 761, 787 (1985):

Models of market efficiency relied upon in the legal literature treat the available information as exogenous by simply asking how the market will respond given a certain amount of information; they fail to account for individual decisions to obtain information. A better approach would regard the information set relative to which the market is efficient as endogenous; the efficient market hypothesis should be embedded in a general model that simultaneously explains both investors' decisions to acquire information and the process of market aggregation of information held by investors.

²³ Myron S. Scholes, *The Market for Securities: Substitution versus Price Pressure and the Effects of Information on Share Prices*, 45 J. BUS. 179, 183 (1972).

capital necessary to assimilate and evaluate the information once they have obtained it.²⁴ Thus rivalrous competition among well-informed market professionals causes rapid assimilation of information accessible to the community of investment analysts into share prices at low cost to investors.²⁵

Large firms continuously generate new information about their earnings prospects from a wide array of sources. Among the sources of such new information are a firm's regular quarterly earnings reports, disclosures about acquisition or divestiture plans, changes in the composition of the board of directors or top management, information about the progress of new production techniques or the progress of the firm's research and development efforts, and even new information about pending litigation.²⁶ All of these sources of information will alter the market's information set about a firm's expected earnings. As such, all of these sources of information reflect possible sources of trading profits for such market professionals as analysts, exchange specialists, researchers, portfolio managers and arbitrageurs.

As long as a firm is continuously generating new information, it is generating new trading opportunities. These trading opportunities create liquidity because they ensure that there will be a continuous stream of buyers and sellers for a firm's shares. The crucial point here is that liquidity, like share value itself, is largely endogenously determined—the nature of the firm itself will determine whether the secondary market for the firm's stock is liquid or illiquid. The more frequently trading opportunities are generated by a firm, the more liquid we would expect the firm's shares to be.²⁷ Thus, all else equal, the more volatile the price fluctuations of a firm's shares, the more liquid we would expect the market for those shares to be, because this volatility would present an abundance of trading opportunities for market professionals.

Similarly, the larger the number of shares that a firm has outstanding, the more liquid we would expect the market to be for those shares. This is because the profit making opportunities for market professionals increases as the number of shares outstanding for a firm goes up. To illustrate the point, imagine two firms, *X* and *Y*. These firms are identical in all respects except that firm *X* has ten

²⁴ See Gilson & Kraakman, *supra* note 17, at 571-72.

²⁵ *Id.* at 572.

²⁶ See generally BENJAMIN GRAHAM, GRAHAM AND DODD'S SECURITY ANALYSIS 95-111 (5th ed. 1988) (discussion of information sources used by security analysts); Kripke, *supra* note 21.

²⁷ If a market is truly efficient, prices adjust even with minimal trading. The text is based on the premise that market efficiency is affected by costs of producing and disseminating information. See generally Gilson & Kraakman, *supra* note 17.

times as many shares outstanding as firm *Y*. If a new piece of information becomes available that should cause the price of shares in firm *X* and firm *Y* to double, investment professionals will only be able to acquire a certain percentage of the stock (up to five percent under current U.S. law) before disclosure obligations are triggered.²⁸ This means that market professionals can purchase ten times as many shares of stock in firm *X* before being forced to disclose the size of their investment in the firm, which, in effect, will reveal the information they have uncovered. This observation would hold even in the absence of the affirmative disclosure obligations of the securities laws, because the firm with the larger number of outstanding shares would have a larger average daily trading volume. Investment professionals would therefore be able to purchase a greater number of shares in *X* before the decoding process of uninformed traders caused the information to become generally known and triggered a rise in the price of *X*'s shares to its correct level.²⁹

2. *Additional Incentives for Market Participants to Provide Liquidity: The Influence of the Market for New Issues*

The above subsection showed that rivalrous competition among investment professionals for firm-specific corporate information is an important source of secondary market liquidity. Those market professionals who are the first to acquire, assimilate and react to new information will be able to obtain trading profits. There are two by-products to the activities of these market professionals. The first is that they drive share prices to their efficient levels.³⁰ The second is that they provide liquidity to the marketplace by providing a continuous stream of purchasers and sellers for a firm's stock.

But it is also clear that certain investment bankers provide liquidity for many firms for which there is little trading volume by most market professionals and little investment interest on the part of traders generally. This phenomenon can be explained by the influence of the new issues market. Investment bankers compete heavily for the fees associated with serving as lead underwriter for firms involved in the new issue of securities. Such lead underwriters obtain significant management fees for the services they provide.³¹

²⁸ See Jonathan R. Macey & Jeffrey M. Netter, *Regulation 13D and the Regulatory Process*, 65 WASH. U.L.Q. 131 (1987) (describing and analyzing SEC Rule 13D, which contains the disclosure obligations described in the text).

²⁹ Gilson & Kraakman, *supra* note 17, at 571-79.

³⁰ See Note, *supra* note 17, at 1056 (competing securities analysis is one of the mechanisms that helps achieve market efficiency).

³¹ MICHAEL HALLORAN, GOING PUBLIC 24 (5th ed. 1983) (underwriter's fees are

Investment bankers never lose because the securities brought to market in an initial public offering of securities generally trade at a significant discount to the prices of securities in the secondary trading markets.³²

These discounts, which average over sixteen percent,³³ are far too large to be explained as compensation for the risk experienced by the underwriters who purchase the issues.³⁴ These discounts are also perplexing in light of the fact that the issuers themselves should have better information about their firms' cash flows than outside investors such as underwriters, and thus should be able to protect themselves against systematic underpricing.

Perhaps the explanation for this systematic underpricing of new issues is that issuers are paying the underwriters for more than simply the immediate provision of underwriting services. Specifically, issuers are paying for an implicit promise by the underwriters that they will provide a continuous two-way market for the firm's shares subsequent to the underwriting. The issuers realize that the existence of such a two-way market is of value to investors and will therefore increase the offering price of the shares.³⁵ Thus the issuers are willing to pay the underwriters during the initial public offering for the implicit promise that the underwriters will provide liquidity in the form of a continuous two-sided market in the future.

Note, however, that this implicit contract calls for payment up front by the issuer, but for performance by the underwriter long into the future. The question inevitably arises as to how the issuer can be assured that the underwriters will perform their end of the agreement. As it turns out, however, performance is not a problem because investment bankers will continue to make secondary markets for new issues they have underwritten in order to attract new business in the future. Thus underwriters want to develop and maintain a reputation for providing high quality secondary markets for the issues they have underwritten in order to attract new busi-

often 7-10% of proceeds from an initial offering); Carl W. Schneider, Joseph M. Manko & Robert S. Kant, *Going Public: Practice, Procedure and Consequences*, 27 VILL. L. REV. 1, 29 (1981).

³² Roger C. Ibbotson, Jody L. Sindelar & Jay R. Ritter, *Initial Public Offerings*, 1 J. APPLIED CORP. FIN. 37 (1988) (finding an average initial return of 16.37% for 8668 new issues between 1969 and 1987).

³³ *Id.*

³⁴ See Mark Grinblatt & Chuan Yang Hwang, *Signalling and the Pricing of New Issues*, 44 J. FIN. 393, 393 (1989). Empirical studies are yet to be done for the Japanese markets.

³⁵ Poser, *supra* note 5, at 886 ("For the sale of a new issue of securities to succeed, prospective purchasers must have a reasonable assurance of liquidity in the market for the security. Thus, the success of new-issue markets is dependent on the effectiveness of trading markets.").

ness in the future. This incentive to attract new underwriting revenues provides investment bankers with the incentive to perform their implicit contractual obligations to maintain robust secondary markets in the issues they have underwritten.

3. *Stock Exchanges as Providers of Liquidity*

Neither of the two sources of liquidity identified thus far depends on the existence of an organized stock exchange. Rather, both sources of market liquidity stem from the private incentives of investment banks to provide liquidity. In the first instance, financial intermediaries provide liquidity in order to earn positive rates of return from the information they generate as market professionals. In the second instance, such intermediaries provide secondary market liquidity as part of an implicit contract to provide secondary market liquidity for the new issues they underwrite. Stock exchanges do, however, enhance the secondary market liquidity of the issues they accept for listing.

Exchanges enhance secondary market liquidity because they serve as central producers and disseminators of information. Exchanges are central information processors because their rules generally prohibit trading in exchange-listed stocks off an exchange. Thus virtually all trades are consummated on the floor of the exchange on which a firm's shares are listed.³⁶ Exchanges are efficient disseminators of information because their central physical location allows exchange officials to compile information about price levels and trading volumes as trading occurs. Thus organized exchanges are able to offer member firms up to the minute trading information on listed stocks, regardless of where those member firms are located. Officials of the NYSE have described these features as the most important product offered by that Exchange.³⁷

As secondary trading markets become more efficient, it becomes more difficult for market professionals to earn positive rates of return because new information becomes impounded in securities prices so quickly that fewer people can benefit from possessing such information.³⁸ Thus, as secondary markets become more efficient, traders must have instantaneous information about price movements and about the activities of rival traders. Organized stock exchanges, by providing a centralized location for secondary

³⁶ Exchanges' rules that prohibit member firms from trading listed securities off the exchange are called off-board trading restrictions. See Macey & Haddock, *supra* note 1, at 332-37 (discussing off-board trading rules on the NYSE).

³⁷ Interview with various NYSE officials in New York City (March 8, 1989).

³⁸ See Gordon & Kornhauser, *supra* note 22, at 795 ("As more investors purchase research, the price grows more informative and the value of doing research declines."). See generally Gilson & Kraakman, *supra* note 17.

market trading, are well suited to providing information about recent trades.

Organized exchanges can disseminate complete information about trading patterns virtually instantaneously by electronic means. The rapid dissemination of information for exchange-listed securities lowers the search costs of market professionals who need price information quickly in order to make trading decisions. The more efficient the market for a particular stock, the more quickly this information is needed.

Furthermore, exchanges may enhance secondary market trading liquidity because they lower search costs for purchasers and sellers of securities. If a security is listed on an exchange, would-be traders will know immediately where to go to make trades. By contrast, if a security is not listed on an exchange, traders must search for a party willing to appear on the other side of the transaction. As Professor Fischel has pointed out, in this regard "[t]here is little fundamental difference between the economic role of a stock exchange and that of any ordinary shopping center or flea market. All facilitate trading by bringing together buyers and sellers in a known location and thereby reducing search costs."³⁹

The importance of economizing on search costs should not be trivialized. Having a centralized trading location is very important to market participants who wish to obtain the best price for their stock. In the absence of an exchange, a trader who wanted to buy or sell stock would have to communicate separately with several market makers to be assured of obtaining the best price.⁴⁰ Under rapidly changing market conditions, it is difficult to obtain the best price for one's shares as prices may change before the trader with the best price can be located.

Thus it seems probable that the existence of organized stock exchanges does enhance the liquidity of the firms whose shares are listed on such exchanges.⁴¹ However, it is not the rules of exchanges that provide this additional liquidity. Rather, the simple fact that exchanges provide a single centralized forum where securities trading can occur, enhances secondary market liquidity for three reasons. First, exchanges facilitate the market's ability to produce

³⁹ Daniel R. Fischel, *Organized Exchanges and the Regulation of Dual Class Common Stock*, 54 U. CHI. L. REV. 119, 121 n.9 (1987).

⁴⁰ SENA M. TINIC & RICHARD WEST, *INVESTING IN SECURITIES: AN EFFICIENT MARKETS APPROACH* 51 (1979).

⁴¹ The economic function of trading markets is to create liquidity—this allows investors to purchase securities at a price reasonably related to the preceding price. S. ROBBINS, *supra* note 9, at 33. Empirical studies for NYSE listings that support this point include Theohary Grammatikos & George Papaioannou, *Market Reaction to NYSE Listings: Tests of the Marketability Gains Hypothesis*, 9 J. FIN. RES. 215 (1986).

trading information by forcing all trading to a central location. Second, exchanges lower the costs of disseminating information about recent trades to market participants, thereby lowering the costs of following exchange-listed stocks. Finally, the fixed location of stock exchanges lowers the transactions costs of those wishing to consummate trades, since they provide a known location for would-be buyers and sellers to meet.

Note, however, that the benefits provided by exchanges are all by-products of the fact that the exchanges provide a centralized location for trades to take place. When exchanges were invented, there was no substitute for an exchange floor as a forum for securities trading. As technology has advanced, however, computer linkages can perform the same function as a fixed geographic location. Indeed, NASDAQ, the second most active exchange in the world,⁴² is not really an exchange at all, but rather a close substitute—an exchange-like system that links participants via computer to provide continuous bid-and-asked quotations for companies meeting the system's listing criteria.⁴³ This computer linked system provides virtually the same benefits as an organized exchange. Traders obtain instantaneous, continuous bid-and-asked quotations for the stocks listed on the system,⁴⁴ thus making it possible for central information processing to occur. In addition, the search costs historically associated with trading over-the-counter stock have been eliminated, since computer screens supply the identification of those market participants willing to consummate trades.⁴⁵

B. Monitoring of Exchange-Listed Companies

As discussed above, the very fact that exchanges provide a centralized trading forum aids secondary market liquidity. Similarly, an exchange's centralized location also serves as a benefit to passive investors who wish to obtain low-cost monitoring of the markets in which their shares trade.⁴⁶

It is widely known that, in a variety of contexts, corporate insiders have a fiduciary duty to refrain from engaging in trading on the basis of the material, non-public information in their possession.⁴⁷

⁴² See NASDAQ AND THE OTC MARKET, *supra* note 11, at 23.

⁴³ NASDAQ, 1988 FACT BOOK 10 [hereinafter 1988 FACT BOOK]; S. TINIC & R. WEST, *supra* note 40, at 51.

⁴⁴ LEO LOLL, JR. & JULIAN G. BUCKLEY, THE OVER-THE-COUNTER SECURITIES MARKETS 179-80 (4th ed. 1981); NASDAQ AND THE OTC MARKET, *supra* note 11, at 12 (NASDAQ displays continuously updated price quotations.).

⁴⁵ L. LOLL & J. BUCKLEY, *supra* note 44.

⁴⁶ Jonathan R. Macey, *From Fairness to Contract: The New Direction of the Rules Against Insider Trading*, 13 HOFSTRA L. REV. 9, 58-63 (1984).

⁴⁷ See *id.*

Clearly, however, trading on such information is exceedingly hard to detect.⁴⁸ Confining all trading to a centralized location at which trading patterns can be scrutinized greatly facilitates the ability of the markets to monitor breaches of fiduciary duties by officers and directors. Where monitoring and detecting insider trading is easier, the costs of such activity will be higher, and the incidence of the activity will be lower.⁴⁹ Thus, organized stock exchanges can reduce agency costs associated with the separation of ownership and control within large, publicly held firms by lowering the costs of monitoring certain breaches of fiduciary duty by corporate insiders.⁵⁰

Investors need protection not only from insider trading, but also from share price manipulation by market professionals as well. Investors often give orders to buy or sell stock at the current market price. Such orders provide ample opportunities for abuse in volatile trading markets because market professionals can trade stock at a price wholly unrelated to the actual share value. For example, suppose the most recent quoted market for a firm's shares is \$25.00 bid, and \$25.25 offered. Suppose, however, that the market is extremely volatile, and market professionals recognize that the best current bid for the firm's shares would be around \$15.00. It would be possible for a market professional who received a market buy order to execute that order at \$25.25, the last available quoted offering price. While such a trade would be a violation of the market professional's fiduciary obligation to his customer, such violations are extremely difficult to monitor. Focusing all trading on the floor of an exchange benefits investors by making such over-reaching easier to detect.

To the extent that the enhanced monitoring available on organized exchanges lowers monitoring costs, firms will be willing to pay to have their shares listed on such exchanges.⁵¹ This is because the expected costs to investors associated with such events as insider trading and stock price manipulation will be borne by the entrepreneurs selling the firm's stock to the public. Investors will discount the price they are willing to pay for a company's stock by an amount

⁴⁸ Frank H. Easterbrook, *Insider Trading as an Agency Cost Problem*, in PRINCIPALS AND AGENTS: THE STRUCTURE OF BUSINESS 81 (John W. Pratt & Richard J. Zeckhauser eds. 1985).

⁴⁹ George J. Stigler, *The Optimum Enforcement of Laws*, 78 J. POL. ECON. 526, 527 (1970).

⁵⁰ See Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305 (1976) (describing the nature of agency costs within the publicly held firm).

⁵¹ Macey, *supra* note 46, at 59; Easterbrook, *supra* note 48, at 94 (although the costs of writing a prohibition against insider trading into a firm's corporate charter may be low, the costs of enforcing the provision could be quite high due to the high costs of monitoring and detecting insider trading activity).

equal to their expected losses from insider trading and stock price manipulation.⁵² Investors are unlikely to believe empty assurances by firms that they will refrain from engaging in manipulative stock trading because they realize that they cannot monitor fraudulent trading activities. Listing on an exchange enables investors to take advantage of monitoring by a third party—the exchange itself. Consequently, firms have an incentive to list on exchanges to increase the price they can obtain for their shares in initial public offerings.

Furthermore, it seems clear that there are significant economies of scale associated with centralized monitoring of stock trading.⁵³ For one thing, stock price monitoring requires specialized skills. With the aid of computers, however, a single stock monitor can use those specialized skills to monitor hundreds of stocks. Similarly, the same technology necessary to monitor a single stock can be used to monitor other stocks. Thus, rather than having hundreds of individual firms acquire the technology and the expertise necessary to monitor stock trading, it is more efficient to have an organized stock exchange provide a single, specialized monitoring, in the form of so-called “stock watch” programs, for hundreds of firms simultaneously.

C. Providing Off-the-Rack Rules

Contracting is costly. If organized stock exchanges can reduce the costs of the contracting process within the publicly held corporation, there will be a demand for the services of exchange. One of the costs associated with the contracting process, of course, is the cost of monitoring those contracts once they are formed. To the extent that such contracts explicitly or implicitly involve prohibitions on the trading of securities by corporate insiders, the above section showed that exchanges can reduce the costs of the intra-firm contracting process.

Another cost associated with contracting within the firm is the cost of forming contracts and the cost of enforcing those contracts.⁵⁴ Exchanges provide benefits to listed firms by supplying standard contract terms and enforcement services that reduce the costs associated with intra-firm contracting.

Thus we observe organized exchanges offering listed firms off-the-rack rules on matters seemingly unrelated to secondary market trading. For example, the NYSE requires listed companies to have a minimum of two outside directors,⁵⁵ and to have an audit committee

⁵² See Jensen & Meckling, *supra* note 50, at 305.

⁵³ Macey, *supra* note 46, at 59.

⁵⁴ See *id.*; Easterbrook, *supra* note 48, at 94.

⁵⁵ An outside director is a director who is not an employee, officer, or former of-

comprised solely of independent directors.⁵⁶ These provisions ensure investors that the internal corporate activities of listed companies, as well as transactions on the floor of stock exchanges will receive regular supervision from independent, outside sources. Similarly, NYSE rules require that listed firms review and oversee transactions with related parties on an ongoing basis.⁵⁷ Such transactions inevitably involve a conflict of interest between management's duty of loyalty to shareholders and management's interest in the welfare of the related party, so it is to be expected that shareholders particularly would value scrutiny of such transactions.

D. Stock Exchanges as Reputational Intermediaries

The NYSE was founded in 1792,⁵⁸ the TSE in 1878.⁵⁹ Over time, stock exchanges have developed significant reputational capital that is of value to listing firms. It is very costly for potential investors to obtain information about all of the companies that present attractive investment opportunities. Listing on an exchange can provide a valuable filter to investors, informing them that the securities listed are of high quality.⁶⁰

This signalling service is valuable to issuers as well as investors. Issuers find it costly to make credible assurances to potential investors that their securities are of high quality. An exchange listing provides an independent verification of quality. This verification is credible because the loss to the exchange's reputational capital resulting from a false declaration of quality inevitably will exceed any short term gains the exchange might obtain by making such a false declaration. Thus listing on an exchange reduces the costs to investors of searching for high quality investment opportunities and lowers the costs to issuers of signalling to investors that their securities are high quality. As the NYSE points out in its advertising literature to potential listing companies, "the prestige and worldwide recognition associated with [being] a 'New York Stock Exchange' [listed] company is a distinct advantage not only with investors, but also

ficer of the listing firm or one of its subsidiaries or divisions, or a relative of a principal executive of the firm, or an individual or member of an organization acting as an advisor, consultant, legal counsel, receiving compensation on a continuing basis from the company other than director's fees. NYSE LISTING STANDARDS, *supra* note 7, at 6.

⁵⁶ *Id.*

⁵⁷ *Id.* at 7.

⁵⁸ See LEONARD SLOANE, *THE ANATOMY OF THE FLOOR* 15 (1980).

⁵⁹ See A PROFILE OF THE TOKYO STOCK EXCHANGE: HISTORY, STRUCTURE AND A VARIETY OF SERVICES 2 (undated monograph) [hereinafter TSE PROFILE].

⁶⁰ Thus far the results of the empirical studies on this issue have been inconclusive. See Theoharry Grammatikos & George J. Papaioannou, *The Informational Value of Listing on the New York Stock Exchange*, 21 FIN. REV. 485, 497-98 (1986); Sanger & McConnell, *supra* note 13, at 22-23.

with lenders, suppliers, customers and prospective employees."⁶¹

Consistent with this analysis, exchanges require that listed firms meet certain listing standards.⁶² These standards require that listed firms maintain a net income in excess of a specified amount, and that the aggregate market value of outstanding shares exceeds a minimum amount. In addition, listing standards require that firms have a certain minimum number of shareholders and maintain a certain monthly trading volume. These latter requirements ensure that exchange-listed securities will retain a certain minimum level of liquidity for the protection of investors.

This section has unbundled the service offered by organized stock exchanges into four component parts. With this background in mind, the following sections describe the operation of the New York and the Tokyo Stock Exchanges. We observe that, while these exchanges provide all of these services, close substitutes have emerged that serve as serious rivals. This is particularly true in the case of the NYSE.

II

THE NEW YORK STOCK EXCHANGE

The New York Stock Exchange claims to be the "world's premier securities marketplace."⁶³ Support for this claim may come from the fact that in 1987 the NYSE had the largest dollar volume of equity trading of any exchange in the world.⁶⁴ Irrespective of its position in world markets, the NYSE clearly enjoys a dominant position among U.S. securities exchanges. "The value of trading on the NYSE represents 77% of total value of U.S. equity trading activity," and is three times greater than the trading value of any other U.S. exchange.⁶⁵

These market share figures, however, overstate the degree of market power enjoyed by the NYSE for three reasons. First, most of the firms listed on the New York Stock Exchange are dually listed on other exchanges.⁶⁶ While exchange rules traditionally bar exchange members from trading listed firms' shares off an exchange, firms may list their shares on more than one exchange, and brokerage firms that are not members of the NYSE are free to trade shares of

⁶¹ NYSE LISTING STANDARDS, *supra* note 7, at 3.

⁶² *Id.* at 4-5; Tokyo Stock Exchange Listing Standards.

⁶³ NEW YORK STOCK EXCHANGE, 1988 ANNUAL REPORT, at 57 [hereinafter NYSE ANNUAL REPORT].

⁶⁴ 1988 Fact Book, *supra* note 43, at 11. In 1988, the TSE had the largest dollar volume of equity trading in the world.

⁶⁵ NYSE LISTING STANDARDS, *supra* note 7, at 1.

⁶⁶ [1979-1980] SEC ANNUAL REPORT at 130.

NYSE listed companies off of the Exchange.⁶⁷ Thus if the NYSE alters its pricing policies in ways that harm listed firms, nonexchange members who trade the stock of such firms can simply redirect their trading volume to rival exchanges on which the shares are dually listed.

Second, even so-called off-board trading restrictions, which prohibit exchange members from trading shares in listed securities in the over-the-counter market, are eroding.⁶⁸ SEC Rule 19c-3 prohibits exchanges from restricting secondary market trading for shares listed on an exchange after April 26, 1979.⁶⁹ For these stocks, the NYSE faces potential competition from the over-the-counter markets for trading volume because members can begin making markets for over-the-counter shares in these firms. This competition serves as a real constraint on the ability of the NYSE to exercise market power over certain listed firms.

Finally, equity trading that occurs on the floor of the NYSE can easily shift overseas. For example, on October 19, 1987, the day of the most recent market crash, one billion dollars of American stocks were traded in London before the New York markets opened.⁷⁰ This "shows that American securities markets are vulnerable to foreign competition on a meaningful scale."⁷¹

The remainder of this section examines the services offered by the NYSE. As suggested above, it appears that the emergence of close substitutes for the services offered by the NYSE effectively constrains that exchange from exercising market power.

A. Liquidity on the NYSE—The Specialist System

In Section I we argued that the major sources of market liquidity were endogenously determined. In modern trading markets, stock exchanges can do little to enhance the inherent liquidity characteristics of a listing firm. The principal exception to this observation concerns share price reporting. As noted above, exchanges provide an exceedingly efficient forum for reporting information about trades.⁷² Information about price and volume for trades con-

⁶⁷ See Poser, *supra* note 5, at 888; see also Craig Torres & William Power, *Big Board is Losing Some of Its Influence Over Stock Trading*, Wall St. J., Tuesday, April 17, 1990 at A1 (describing increasing trend to make trades in NYSE listed stocks off of the Exchange).

⁶⁸ *Id.* at 931-41 (examining the historical developments and the eventual decline of off-board trading restrictions).

⁶⁹ Securities Exchange Act Release No. 16,889, 45 Fed. Reg. 41, 157 (1980). In addition, Rule 19c-3 prohibits exchanges from placing trading restrictions on stocks that listed on an exchange prior to April 26, 1979, but which later were delisted. *Id.*

⁷⁰ Lawrence Harris, *The Dangers of Regulatory Overreaction to the October 1987 Crash*, 74 CORNELL L. REV. 927 (1989).

⁷¹ *Id.* at 936.

⁷² See *supra* text accompanying notes 36-40.

summated on the NYSE trading floor is generally recorded on the NYSE's Consolidated Tape less than ten seconds after such trades occur.⁷³ This information is of great value to investors, and provides market professionals with an incentive to follow NYSE listed stocks since such information dramatically reduces search costs. Similarly, a central physical location enhances liquidity by reducing the time involved in finding the best price for a security.⁷⁴

At first blush, the existence of the specialist system on the NYSE seems to contradict the observation that the presence or absence of an organized exchange is irrelevant to secondary market liquidity. The specialist system is unique to American trading markets. When a firm is listed on an exchange such as the NYSE, which operates a specialist system, responsibility for maintaining market liquidity for the firm's shares is allocated to an exchange specialist firm. Each specialist firm occupies a particular post on the floor of the exchange. All trading in the listed security on the exchange must take place at the specialist firm's post, regardless of whether the transaction is for the trader's own account, or for the account of a customer.⁷⁵

The notion that specialists provide market liquidity is embraced by both the SEC and the NYSE and is implicit in SEC and NYSE rules governing exchange specialists. To this end, both organizations require specialists to maintain fair and orderly markets.⁷⁶ It has even been said that "the focal point of the exchange market is the specialist. His statutory obligation to maintain a fair and orderly market is the justification for his existence and the reason for his importance."⁷⁷ Unfortunately, however, no one has ever come up with a good definition of what it means to maintain a fair and orderly market, and there are no objective criteria against which to judge the conduct of exchange specialist.⁷⁸ The most precise exposition of the rules governing the behavior of exchange specialists is contained in the NYSE rules. The rules state:

The maintenance of a fair and orderly market implies the maintenance of price continuity with reasonable depth, and the minimizing of the effects of temporary disparity between supply and demand. . . .

⁷³ NYSE ANNUAL REPORT, *supra* note 63, at 19.

⁷⁴ See *supra* text accompanying note 40.

⁷⁵ See Poser, *supra* note 5, at 889.

⁷⁶ SEC Rule 11b-1(a)(2)(iii), promulgated under the Securities Exchange Act of 1934, 15 U.S.C. § 78k(b) (1988); 17 C.F.R. § 240.11b-1 (1988); 2 New York Stock Exchange Guide (CCH) para. 2104.10 (1989) [hereinafter NYSE GUIDE].

⁷⁷ Nicholas Wolfson, Kenneth I. Rosenblum & Thomas A. Russo, *The Securities Markets: An Overview*, 16 How. L.J. 791, 815 (1971) (citations omitted).

⁷⁸ See *id.* at 815-19.

In connection with the maintenance of a fair and orderly market, it is commonly desirable that a member acting as a specialist engage to a reasonable degree under existing circumstances in dealings for his own account when lack of price continuity, lack of depth, or disparity between supply and demand exists [sic] or is reasonably to be anticipated.⁷⁹

Even this elaborate formulation is quite vague. There is no indication as to how much fluctuation in "depth and continuity" is permitted within an "orderly" market, and there is no suggestion as to what determines whether a specialist has acted reasonably under "existing circumstances."⁸⁰

The regulatory regime under which exchange specialists operate is peculiar in light of the discussion in Part I about the sources of market liquidity. After all, if market liquidity is endogenously determined, then it makes little sense to hold exchange specialists legally responsible for a phenomenon over which they have no control. Empirical studies suggest that specialists do not have the same economies of scale as do dealers in individual stocks.⁸¹

The unrealistic nature of the rules governing specialists is even more evident in light of modern finance theory, which suggests that small investors increasingly will employ institutional investors such as mutual funds to make trading decisions on their behalf. Moreover, when modern trading practices such as portfolio insurance and other dynamic hedging strategies are taken into account, the notion of obligating an exchange specialist to maintain a fair and orderly market becomes simply ludicrous. The Capital Asset Pricing Model posits that there is a direct trade-off between risk and return in a competitive trading market.⁸² Investors must be compensated for accepting additional increments of risk with the prospect of obtaining higher rates of return on their investment. The existing theory and available evidence also indicates that investors can eliminate some of the risks associated with holding a diversified portfolio of securities, while other risks cannot be diversified away.⁸³ Competitive trading markets will only compensate investors for

⁷⁹ NYSE GUIDE, *supra* note 76, para. 2104.10, at 2705.

⁸⁰ Wolfson, Rosenblum & Russo, *supra* note 77, at 816-19 ("continuity" and "depth" are defined generally—however, it is clear that "it is impossible to define with mathematical certainty the boundaries of the specialist's obligation").

⁸¹ See, e.g., George J. Benston & Robert L. Hagerman, *Determinants of Bid-Asked Spreads in the Over-the-Counter Market*, 1 J. FIN. ECON. 353 (1974); James L. Hamilton, *Competition, Scale Economies, and Transaction Cost in the Stock Market*, 11 J. FIN. QUANTITATIVE ANALYSIS 779 (1976).

⁸² For discussion of the Capital Asset Pricing Model, see, e.g., THOMAS E. COPELAND & J. FRED WESTON, *FINANCIAL THEORY AND CORPORATE POLICY* 185-200 (2d ed. 1983).

⁸³ See, e.g., Franco Modigliani & Gerald A. Pogue, *An Introduction to Risk and Return*, FIN. ANALYSTS J., March/April, 1974, at 68.

those risks that they cannot avoid through diversification. Consequently, all investors have a strong incentive to diversify their investment portfolios. One low-cost method of diversification is to buy a mutual fund. But almost any pooled investment vehicle, including life insurance and employer pension funds, can provide the benefits of diversification. Thus, it is not surprising that institutional investors have become an increasingly important part of the activities of stock exchanges.

Unlike individual investors, these institutional investors are likely to buy and sell stock in large blocks. While specialist firms might be capable of providing liquidity to markets dominated by individual small investors, as markets have become dominated by institutions, specialist firms have even been unable to handle what have become routine transactions.⁸⁴ Thus, when a large block of stock is to be sold by an institutional investor, there is no expectation that the exchange specialist will handle the transaction. Rather, the brokerage firm engaged to consummate the sale will not contact the specialist on behalf of the institutional investor but "will call other dealers and institutions to find one interested in the other end of the deal. The specialist on the floor of the NYSE, the subject of much attention, actually serves as a market maker only for the residual small blocks and odd lots of stock."⁸⁵ Thus, most trading on the NYSE closely resembles that done in the over-the-counter markets without the benefit of a specialist.⁸⁶

While block trading by institutional investors made the task of the specialists difficult, portfolio insurance has made it impossible. Portfolio insurance is simply a trading strategy designed to prevent the value of an investor's portfolio from falling below a certain pre-designated floor (known as the strike price), while still permitting the investor some degree of participation in the upside associated with a volatile equity position.⁸⁷ Portfolio insurance attempts to replicate the returns to a stock put option by a dynamic trading strategy.⁸⁸ In a nutshell, portfolio insurance causes investors to buy stock when the market is rising in order to lock in gains, and to sell stock when the market is falling, and when the value of the portfolio reaches the pre-designated floor.

Portfolio insurance employs computer executed algebraic for-

⁸⁴ See Nicholas Wolfson & Thomas A. Russo, *The Stock Exchange Specialist: An Economic And Legal Analysis*, 1970 DUKE L.J. 707, 740-41 (institutional traders on the NYSE have created an "unprecedented strain" on specialists).

⁸⁵ Fischel, *supra* note 39, at 126.

⁸⁶ *Id.*

⁸⁷ For a complete explanation of portfolio insurance, see Mark Rubinstein, *Derivative Assets Analysis*, 1 ECON. PERSP. 73 (1987).

⁸⁸ Harris, *supra* note 70.

mulas that dictate when shares will be traded in an attempt to replicate the returns to a stock option. It is generally thought that one of the causes of the stock market crash of 1987 was portfolio insurance.⁸⁹ It is easy to see how this is so. When the market began its decline on "Black Monday," hundreds, perhaps thousands, of computerized portfolio insurance programs were triggered and automatically executed orders to sell their stock. Exchange specialists, in theory, would have been expected to meet these sell orders so that an orderly market could be maintained. At the end of the second quarter of 1987, just before the crash, between sixty and eighty billion dollars in assets were being managed by portfolio insurance.⁹⁰ While this figure represented only about two percent of the U.S. equity market, over twenty percent of the trades in Standard and Poor's index futures and NYSE stocks on the day of the crash were portfolio insurance trades.⁹¹

It also appears clear from the huge selling volume during the crash that even investors who did not employ portfolio insurance as part of their trading strategies were influenced by the sales decisions of the traders with portfolio insurance.⁹² These other investors wanted to liquidate their stock holding before all of the investors with portfolio insurance attempted to sell. Thus, as other institutional investors saw the rate at which those with portfolio insurance were selling, the downward pressure on the market increased.⁹³ Ra-

⁸⁹ AVNER ARBEL & ALBERT E. KAFF, *CRASH: TEN DAYS IN OCTOBER . . . WILL IT STRIKE AGAIN?* 117-18 (1989):

The fact that, during the crash, the market was filled with sellers, while buyers were scarce shut down much of the portfolio insurance. Portfolio insurance, also requires that indexes of future stock prices be synchronized closely with the actual trading price of the underlying stocks; but, [i]f wide gaps develop between future and current cash prices, [like that during the crash,] then the insurance systems falter. . . . Many market professionals believe that portfolio insurance, while not responsible for starting the crash, may have accelerated the stock market decline.

See also SECURITIES AND EXCHANGE COMMISSION DIVISION OF MARKET REGULATION, *THE OCTOBER 1987 MARKET BREAK* 3-13 to 3-17 (Feb. 1988) [hereinafter *SEC REPORT*] (Chapter 3 discusses the role of portfolio insurance during the 1987 crash. "[T]he . . . increase in index arbitrage and portfolio insurance trading in the stock market has increased the risks incurred by stock specialists and has strained their ability to provide liquidity to the stock market." *Id.* at 3-47.).

⁹⁰ Hayne Leland & Mark Rubenstein, *Comment on the Market Crash: Six Months After*, 2 *J. ECON. PERSP.* 45, 48 (1988).

⁹¹ *Id.*

⁹² James F. Gammill, Jr. & Terry A. Marsh, *Trading Activity and Price Behavior in the Stock and Stock Index Futures Markets in October 1987*, 2 *J. ECON. PERSP.* 25 (1988); *SEC REPORT*, *supra* note 89, at 3-12 ("In addition to direct effects, the use of derivative products in program trading strategies had a significant indirect impact on the markets—particularly on October 19—in the form of negative market psychology." This reaction was due in large part to the portfolio insurance "overhang.").

⁹³ *BRADY REPORT*, *supra* note 2, at 29.

tional expectations of investors also played a role:

The activities of a small number of aggressive trading-oriented institutions . . . posed the prospect of further selling pressure on Monday. These traders could well understand the strategies of the portfolio insurers and mutual funds. . . . They could . . . see those institutions falling behind in their selling programs. The situation presented an opportunity for these traders to sell in anticipation of the forced selling by portfolio insurers and mutual funds, with the prospect of repurchasing at lower prices.⁹⁴

These simultaneous sell orders swamped the exchange specialists, thwarting their ability to maintain fair and orderly markets since none of them had sufficient capital to maintain price continuity.⁹⁵ As the Presidential Task Force established to study the market crash observed:

The limited nature of some specialists' contributions to price stability may have been due to the exhaustion of their purchasing power following attempts to stabilize markets at the open on October 19.

However, for other specialists, lack of purchasing power appears not to have been the determining factor in their behavior. It is understandable that specialists would not sacrifice large amounts of capital in what must have seemed a hopeless attempt to stem overwhelming waves of selling pressure. Nevertheless, from the final hours of trading on October 19 through October 20, a substantial number of NYSE specialists appear not to have been a significant force in counterbalancing market trends.⁹⁶

But even if the specialists had sufficient capital to meet any liquidity demands of the market place, it is not clear that they had an incentive to do so. If the specialist knows that the market is declining, it is not rational to expect the specialist to bankrupt itself in a quixotic attempt to stabilize the market.⁹⁷ In this regard, specialists face an acute collective action problem vis-a-vis one another. Because it is possible to sell shares that one does not own in anticipation of a declining market, any specialist who attempted to stabilize

⁹⁴ *Id.*

⁹⁵ Harris, *supra* note 70, at 933. *But see* Leland & Rubenstein, *supra* note 90, at 47; SEC REPORT, *supra* note 89.

⁹⁶ BRADY REPORT, *supra* note 2, at 50; *see also* SEC REPORT, *supra* note 89, at 4-26 to 4-27 ("While most specialists performed well under circumstances on the morning of October 19, there were several instances of questionable specialist activity": first, a number of stocks were opened at prices well below their Friday, Oct. 16 close; second, when prices declined sharply some specialists sold more securities than they bought rather than buying to prop up orderly prices.).

⁹⁷ SEC REPORT, *supra* note 89, at 4-27 (Under the circumstances, the specialists "cannot, and should not, be [expected to be the buyer of last resort.]").

the market in the face of a rapidly declining market simply would attract an even greater flurry of sales efforts from short sellers. Thus it is not surprising that a sample of fifty large capitalization stocks showed that eighty-two percent of specialists were net sellers during the declining market of October, 1987.⁹⁸

Similarly, it also is not surprising that after the crash, specialists observed that even if they had had additional capital, their actions during the crisis would not have been significantly different.⁹⁹ After all, as the General Accounting Office observed, when the entire market wants to sell, it simply is "suicidal to continue to buy."¹⁰⁰

Similarly, an official of the Securities and Exchange Commission observed after the crash, "it is not reasonable to expect specialists to engage in 'kamikaze' trading strategies."¹⁰¹ For the purposes of this discussion, it is useful to analogize specialists to commercial bankers. Just as commercial bankers provide liquidity for depositors, exchange specialists, at least ostensibly, provide liquidity for investors in the securities for which they are responsible. Despite the fact that commercial bankers have far greater capital resources than specialist firms, if exogenous technological factors coalesced to create a situation in which all depositors would want access to their funds simultaneously, no bank would have sufficient liquidity to meet depositors' needs. This is precisely what has developed in the secondary securities markets. The rise of institutional investors and the emergence of dynamic hedging strategies such as portfolio insurance have rendered specialists obsolete as liquidity providers. Merely raising the amount of capital that specialists are required to maintain will not change the situation, since it does nothing to ameliorate either the incentive problem or the collective action problem described above.¹⁰²

Most importantly, even if regulations could be imposed that forced specialists to provide liquidity under current market conditions, it is far from clear that this would be desirable, because it

⁹⁸ BRADY REPORT, *supra* note 2, at 49.

⁹⁹ UNITED STATES GENERAL ACCOUNTING OFFICE, PRELIMINARY OBSERVATIONS ON THE OCTOBER 1987 CRASH 57 (January 1988) [hereinafter GAO REPORT]; SEC REPORT, *supra* note 89, at xviii (The SEC found that additional specialist capital would probably not have retarded the market decline during the October crash. The report notes a concern that "present minimum capital requirements . . . do not reflect the actual capital needed ensure the maintenance of fair and orderly markets . . .").

¹⁰⁰ GAO REPORT, *supra* note 99, at 57.

¹⁰¹ *Id.*

¹⁰² In the wake of the crash, the minimum capital requirement for specialists was increased from \$100,000 to \$1,000,000. In addition, specialists now must have an amount of capital equal to 25 percent of 150 trading units in the common stock in which they specialize. Finally, specialists are required to be able to assume a position of 150 trading units in the stock for which they specialize, even if that amount is greater than \$1,000,000. NYSE GUIDE, *supra* note 76, para. 2104.20(1)-(4).

would be necessary to compensate the specialists for providing this service. Specialists, like other market makers, provide liquidity to the trading markets by making a bid-asked spread for the securities they choose to trade.¹⁰³ As discussed above, the incentive to provide a bid-asked spread stems from the desire of market professionals to earn trading profits, as well as from the desire to attract new business from firms going public.¹⁰⁴ Thus, while some investment bankers may make markets in securities with little expectation of profits in order to attract underwriting revenues, others must be compensated for providing continuous two-way markets, since providing such markets exposes traders to risk, and to the carrying costs of maintaining an inventory of securities. The spread between the bid side of a market maker's market and the offered side of the market maker's market reflects these transactions costs. The greater the expected losses to market makers, the wider this bid-asked spread will be.¹⁰⁵ Since wider bid-asked spreads represent increased transactions costs and lower liquidity for investors, it is clear that imposing regulations that force specialists to maintain market liquidity is a self-defeating process.¹⁰⁶

The purpose of this section has been to reinforce the point made in Section I that liquidity is endogenously determined. We have seen that, even on the NYSE, where specialists are supposed to maintain market liquidity, the rise of block trading has caused trading by investment bankers, serving in their capacity as "upstairs market makers," to assume the role traditionally performed by specialists on the exchange. These investment bankers, and not the exchange specialists, are the real providers of liquidity for the block trading that has become the dominant form of trading in modern securities markets.¹⁰⁷

Even though the specialists do not appear to be improving the liquidity characteristics of exchange listed stocks, it would at first appear that they are not reducing market liquidity. However, for at least five reasons, specialists may actually impose costs on market participants that impede liquidity. First, unlike transactions in stocks that trade over-the-counter, on NASDAQ, or on the TSE, ex-

¹⁰³ See Wolfson & Russo, *supra* note 84, at 741.

¹⁰⁴ See *supra* text accompanying notes 23-35.

¹⁰⁵ See David D. Haddock & Jonathan R. Macey, *Regulation on Demand: A Private Interest Model with an Application to Insider Trading Regulation*, 30 J. LAW & ECON. 311, 331-32 (1987) (discussing market makers' increases in bid-asked spread to compensate for expected losses from insider trading).

¹⁰⁶ See Wolfson & Russo, *supra* note 84, at 743 (specialist may encounter a conflict of interest when pressured to sell a large block regardless of the obligation to sell only in a rising market).

¹⁰⁷ Cf. Jed Horwitz, *When It Rains It Pours: Big Board May Face Strike*, AM. BANKER, Oct. 26, 1987, at 2, 17 (specialist system is "vestige of the horse-and-buggy era").

change specialists rather than individual market participants are responsible for establishing the opening price at which shares begin to trade on any given trading day.¹⁰⁸ Individual specialists must, therefore, guess where the market is at the opening. In volatile markets, it is easy to make misjudgments, and such misjudgments can aggravate "an already uncertain [market] atmosphere . . ." ¹⁰⁹

Second, the fact that specialists hold themselves out to the public as providers of liquidity to traders creates unrealistic expectations. Investment managers selling portfolio insurance are promising their clients that they will be able to liquidate large portions of their stock portfolios very quickly in the case of a market downturn. The promises of these investment managers are in turn predicated on the assumption that exchange specialists will provide the liquidity to effect such massive liquidations. Thus, it should be recognized that the unrealistic expectations about the ability of specialists to provide liquidity exacerbated the crash of 1987.¹¹⁰

The third problem posed by the regulatory responsibility given to exchange specialists concerns trading halts. In addition to automated "circuit breakers" that force trading to halt automatically if the market index falls by a certain amount,¹¹¹ exchange specialists can order the exchange to halt trading when unusual market conditions exist.¹¹² These trading halts reduce market liquidity by postponing price changes that will occur anyway when markets reopen.¹¹³ As such, trading halts simply impose the costs of delay on investors who wish to trade, and provide these traders with the incentive to shift trading to markets that do not impose such restrictions.¹¹⁴

Perhaps the most important reason why specialist trading impedes market liquidity is because such trading prevents other market professionals from making secondary trading markets that rival the markets made by the specialists. For stocks that are subject to the exchange's off-board trading restrictions,¹¹⁵ broker-dealers who are members of the exchange on which securities are listed are pro-

¹⁰⁸ NYSE GUIDE, *supra* note 76, para. 104A.

¹⁰⁹ BRADY REPORT, *supra* note 2, at 49.

¹¹⁰ A. ARBEL & A. KAFF, *supra* note 89, at 63-65; Harris, *supra* note 70.

¹¹¹ NYSE GUIDE, *supra* note 76, rules 80A and 80B, para. 2080A-2080B.

¹¹² Report of the Special Study of the Securities Markets of the SEC, H.R. Doc. No. 95, 88th Cong., 1st Sess. (pt. 2) at 57 (1963).

¹¹³ Harris, *supra* note 70, at 12; *see also* Cutner v. Fried, 373 F. Supp. 4 (S.D.N.Y. 1974) (allegation that specialist wrongfully suspended trading in the stock to which he was assigned in violation of obligation to maintain a "fair and orderly market"); Lee, *supra* note 12, at 42, cols. 1 & 5.

¹¹⁴ *See* Macey & Haddock, *supra* note 1, at 347-51.

¹¹⁵ *See id.* at 329; Poser, *supra* note 5, at 931.

hibited by SEC rule from serving as competing market makers.¹¹⁶ Since virtually all major broker-dealers are members of the NYSE, these rules prevent the emergence of competition among rival market makers for exchange listed securities and "deprive the securities markets of the benefits that might otherwise accrue from enhancement of competition among market makers and the commitment of additional capital and professional skill to the market making function."¹¹⁷

Finally, as the following section shows, there is a clear conflict between the exchange's efforts to provide investors with enhanced monitoring of trading activities, and the specialist's function as a market maker.

B. Monitoring on the NYSE

The Exchange itself is quick to point out that "[o]ne of the greatest strengths of the NYSE . . . is its openness."¹¹⁸ The fact that trading on fixed-location exchanges such as the NYSE "is conducted in the full view of the public"¹¹⁹ greatly facilitates monitoring of exchange listed securities. This valuable aspect of exchange trading is reinforced by continuous computerized instantaneous surveillance of transactions on the trading floor. To this end, the NYSE maintains an on-line surveillance system, known as Stock Watch, which monitors every trade that occurs on the Exchange and isolates deviations from a stock's normal trading pattern for further investigation.¹²⁰

Such monitoring is valuable to investors who want to prevent certain types of insider trading.¹²¹ In addition, exchange monitoring is of value because it reduces the incidence of share price manipulation by market professionals.¹²² This sort of manipulation is more difficult to detect than insider trading. Insider trading can be detected by observing large or unusual trading patterns immediately prior to the public announcement of a meaningful corporate event. By contrast, market manipulation by market professionals reflects the more subtle problems involved when such professionals execute orders on behalf of customers. In particular, small investors often are at a disadvantage relative to large traders in terms of speed of order execution.¹²³

116 See Macey & Haddock, *supra* note 1, at 335.

117 41 Fed. Reg. 4511 (1976).

118 NYSE ANNUAL REPORT, *supra* note 63, at 19.

119 *Id.*

120 *Id.* at 26.

121 See *supra* text accompanying notes 47-50.

122 Macey & Haddock, *supra* note 1, at 345-47.

123 BRADY REPORT, *supra* note 2, at 47.

Clearly, when market professionals see purchase orders in a declining market, such market professionals have an incentive to fill those orders from their own inventories, rather than to fill them on the basis of customers' sell orders. Other violations are even more difficult to detect. A recent case, *Weseley v. Spear, Leeds & Kellogg*,¹²⁴ provides an example of a market professional's conflict of interest between his desire to make trading profits (or to avoid trading losses) and his duties to clients. In that case, the defendant was the specialist firm responsible for J.P. Morgan stock. The price of Morgan's common stock had fallen from \$41.62 per share to \$27.75 on October 19, 1987. Prior to the opening on October 20, the plaintiff alleged that he placed a market order to purchase 2,000 shares of the stock and that the defendant executed this order along with those of other purchasers totalling 500,000 shares. The defendant set an opening price of \$47 per share at which price he allegedly sold a substantial amount of the 500,000-share block from his own account. Two and one-half hours later the price dropped to \$29 and it closed that day at \$34.25.

Such overreaching is exceedingly difficult to detect even in the open environment of a securities exchange. The obvious candidates to serve as the monitors for market manipulation by market professionals are the exchange specialists who are required to continually monitor their respective specialist posts. Clearly, however, the specialist's ability to take positions in the shares reduces his ability to serve as monitor. During the time when specialists were an important source of market liquidity, perhaps this was a trade-off worth making. But under current market conditions, where an abundance of market participants fulfills the market maker functions for exchange listed stocks, the specialists' ability to make markets in their stocks conflicts with their ability to serve as impartial monitors.

The inability of exchange specialists to serve as an effective monitor for transactions in listed securities presents little problem for investors, however, because a number of substitute monitors for specialist firms have emerged. In particular, SEC Rule 10b-5, which outlaws manipulative and deceptive practices, and allows for a private cause of action, provides an incentive for private plaintiffs—and the attorneys representing them—to bring lawsuits alleging that their agents did not faithfully execute trading instructions.¹²⁵ Interestingly, much of the litigation brought against specialists' activities on American stock exchanges involves violations of Rule 10b-5, rather than violations of the specialists' duty to maintain a fair and

¹²⁴ 711 F. Supp. 713 (E.D.N.Y. 1989).

¹²⁵ 17 C.F.R. § 240.10b-5 (1989).

orderly market.¹²⁶ This reinforces the point made earlier that the specialist's obligation to maintain a fair and orderly market is insufficiently precise to be of much value to market participants.

In addition to Rule 10b-5, sections 16(a) and 16(b) of the Securities Exchange Act of 1934 significantly reduce the need for monitoring exchange transactions.¹²⁷ Section 16(a) requires officers, directors and ten percent shareholders to report all trades with the SEC, and section 16(b) requires such statutorily defined insiders to disgorge any "short swing" trading profits made on securities transactions consummated within a six month period.

Finally, as described above, the NYSE runs an automated stock watch program that is wholly independent of the specialists.¹²⁸ This program is particularly necessary in light of the conflicts of interest facing specialists. Indeed, over-reaching by specialists is of particular concern to those administering the NYSE's stock watch program.¹²⁹

As technology has developed, stock traded on electronic exchanges such as NASDAQ can now be monitored with the same level of exactitude available for exchange listed stock. As the SEC has observed, "it is unclear that over-the-counter transactions are intrinsically more difficult to monitor than exchange transactions."¹³⁰ The National Association of Securities Dealers has a Market Surveillance Department that performs the same function as the NYSE's stock watch program. Under the NASD's internal rules, all transactions executed over-the-counter must be reported through the organization's transaction reporting system.¹³¹ The

¹²⁶ *E.g.*, *Schonholtz v. American Stock Exchange*, 505 F.2d 699 (2d Cir. 1974) (investor brought action against a specialist, among others, alleging violations of rule 10(b) and other exchange rules); *United States v. Re*, 336 F.2d 306 (2d Cir. 1964) (The Res, along with others, were convicted under Rule 10(b) for manipulation of stock prices while acting in the role of what they claimed to be specialists. On appeal the court held that inherent in the jury's finding of guilty was the determination that the Res were not performing the function of specialists in their dealings), *cert. denied*, 379 U.S. 904 (1964); *Wesley*, 711 F. Supp. 713 (action brought under Rule 10(b) alleging that the defendant specialist had artificially inflated the opening price of common stock in which he specialized); *Cutner v. Fried*, 373 F. Supp. 4 (S.D.N.Y. 1974) (action was brought against registered specialist who allegedly wrongfully suspended trading in stock. The court held that it was necessary for plaintiff to show causal link between defendant's acts and reduced trading of the stock and each member of the plaintiff class must show nexus between wrong and his loss); *see also* Note, *The Downstairs Insider: The Specialist and Rule 10b-5*, 42 N.Y.U. L. Rev. 695, 708 (1967) (advocating the use of Rule 10b-5 against specialists).

¹²⁷ 15 U.S.C. § 78p(a) & (b) (1988).

¹²⁸ *See supra* text accompanying note 53.

¹²⁹ Interviews with various NYSE officials (March 8, 1989).

¹³⁰ Securities Exchange Act Release No. 11,942, 41 Fed. Reg. 4507, 4512 (1976).

¹³¹ Hearings of the Securities Trading Commission on Off-Board Trading Restrictions 9 (August 16, 1977) (Statement of Gordon S. Macklin, President of the National

SEC serves as an additional independent monitor for all securities transactions.¹³²

The NASD also has promulgated a complex set of regulations that governs the conduct of market professionals who consummate securities transactions on behalf of customers. According to these rules, stock transactions must be "suitable" for investors, and such transactions must conform to a five percent mark-up policy to prevent over-reaching by brokers.¹³³

In addition, the marketplace has generated several additional sources of monitoring for secondary market traders.¹³⁴ Prominent among these market mechanisms are the market for corporate control, which monitors managerial divergence from corporate strategies that maximize wealth for shareholders, and corporate rating agencies, such as Moody's and Standard and Poor's, which provide an independent assessment of the ability of corporate borrowers to meet cash flow obligations on fixed debt and preferred equity.¹³⁵ While this information is particularly valuable to bondholders and other fixed debt and preferred equity claimants, it also is useful to common equity claimants, who would like an independent assessment of the cash flow position of the firms with which they deal.

While these sorts of monitoring mechanisms focus more on the behavior of internal corporate officials than on that of market professionals, market mechanisms also provide incentives for monitoring of such professionals. As discussed above, investment bankers have an incentive to develop and maintain reputations as providers of liquidity in order to attract new underwriting business. For the same reason, these investment bankers have an incentive to develop and maintain reputations for fair dealing in stock trading activities. It is extremely unlikely that the short term gains from even a large one-time fraud in the trading markets could produce gains for investment bankers that equal the value of the reputations for trading integrity that such firms have developed over time.

Thus, while the NYSE provides monitoring for exchange-listed securities, an incredibly rich array of rival monitors has emerged.

Association of Securities Dealers, Inc.); National Association of Securities Dealers Manual (CCH), para. 1919 (1988) (rules describe when and how to report over-the-counter transactions) [hereinafter NASD Manual].

¹³² Macey & Haddock, *supra* note 1, at 346.

¹³³ NASD Manual, *supra* note 131, para. 2154; see also Merritt, Vickers, Inc., v. SEC, 353 F.2d 293 (2d Cir. 1965).

¹³⁴ See Frank H. Easterbrook, *Managers' Discretion and Investors' Welfare: Theories and Evidence*, 9 DEL. J. CORP. L. 540 (1984); Frank H. Easterbrook, *Two Agency-Cost Explanations of Dividends*, 74 AM. ECON. REV. 650 (1984).

¹³⁵ See generally S. TINIC & R. WEST, *supra* note 40, at 357-59; Note, *What Standard of Care Should Govern the World's Shortest Editorials? An Economic Approach to Bond Rating Agency Liability*, 75 CORNELL L. REV. 411 (1990) (authored by Gregory Husisian).

These monitors prevent the NYSE from exercising any degree of market power over potential listing firms who want to provide investors with assurances that their activities will be monitored.

C. The Provision of Off-The-Rack Rules by the NYSE

In no aspect of the exchange's business has the emergence of close substitutes so profoundly displaced the traditional function of the exchanges as in the provision of off-the-rack rules. First and foremost, every state is involved in vigorous competition to produce attractive, off-the-rack legal rules in order to attract chartering business from incorporating firms.¹³⁶ In addition, Congress, the SEC and the NASD have promulgated rules governing changes in corporate control, proxy contests, and public offerings of securities, all of which are designed to protect investors to some degree. Independent organizations such as the American Law Institute, which has sponsored an elaborate project on corporate governance, and the ABA's Committee on Corporate Laws, which promulgates the Model Business Corporations Act, are also valuable, and free, sources of off-the-rack legal rules for corporations.

In light of the increasing complexity of corporate life, a final and extremely significant source of legal rules for corporations is the judiciary of the various states. State judiciaries apply and enforce the implicit contracts between a firm's shareholders and its managers. Because it is impossible for shareholders and managers to specify *ex ante* all of the various contingencies that might arise in the future, the judiciary serves the valuable role of interpreting the various functions and responsibilities of corporate officers and directors in light of unforeseen circumstances. Thus state-law judges are said to interpret hypothetical, implicit contracts between the shareholders and the management of publicly held firms. These implicit contracts that judges enforce take the form of the hypothetical duties of care and loyalty that corporate officers and directors owe their shareholders.¹³⁷ Judges have interpreted these fiduciary duties to mean that officers and directors must conduct the affairs of the corporation so as to maximize value for shareholders.¹³⁸ These judge-made rules are of particular importance to shareholders because they constrain management in areas where it would be extremely costly for shareholders to control via intra-firm contract.

¹³⁶ See Barry D. Baysinger & Henry N. Butler, *The Role of Corporate Law in the Theory of the Firm*, 28 J.L. & ECON. 179 (1985); Roberta Romano, *Law as a Product: Some Pieces of the Incorporation Puzzle*, 1 J.L. ECON. & ORGANIZATION 225 (1985); Ralph K. Winter, Jr., *State Law, Shareholder Protection, and the Theory of the Corporation*, 6 J. LEGAL STUD. 251 (1977).

¹³⁷ See Frank H. Easterbrook & Daniel R. Fischel, *Corporate Control Transactions*, 91 YALE L.J. 698, 700-02 (1982).

¹³⁸ *Id.*

Clearly, it is not feasible for shareholders to draft intra-firm agreements that are sufficiently detailed and complex to cover every future contingency. The judiciary mitigates this contracting problem by enforcing fiduciary duties of care and loyalty on management.

The immense resources, experience and expertise of the judiciary would be very costly for exchanges to replicate. Thus it seems clear that legal rules in the form of state statutes, judge-made laws and federal regulations have completely displaced the role of the exchanges as providers of standard form, off-the-rack legal rules.

The Exchange's inability to compete with local and federal agencies as a provider of internal corporate rules was particularly evident in the recent controversy over intra-firm voting rules. Historically, the NYSE had a policy of refusing to list the securities of firms that did not adhere to the Exchange's rule forbidding firms from issuing more than one class of common stock with voting privileges.¹³⁹ When several listed firms moved to issue additional classes of common shares with voting privileges, the NYSE declined to apply its long-standing rule. First it declared a moratorium on enforcement, and later successfully lobbied the SEC for the adoption of a new Rule (19c-4), which nullifies certain aspects of the NYSE's rule, and extends the application of other aspects to the NASD and the American Stock Exchange.¹⁴⁰

With the adoption of Rule 19c-4, the NYSE effectively abandoned its role as an independent source of rules for listing firms. For one thing, the NYSE's remaining rules in the area of corporate governance are virtually nonexistent. As George Benston and George Stigler have observed, the Securities Act of 1933 and the Securities Exchange Act of 1934 simply codified existing NYSE customs and practices.¹⁴¹ As such, the SEC displaced the Exchange as a source of rules of corporate governance.

But even if the NYSE were to attempt to re-enter the competition to promulgate rules of corporate governance, the Exchange now completely lacks credibility as a result of the 19c-4 controversy. During that unfortunate episode, it abandoned its voting rule under pressure from the very firms to whom the rule was supposed to apply.¹⁴² Thus shareholders of listing firms cannot be sure that the NYSE would agree to enforce its few remaining rules.

¹³⁹ See Fischel, *supra* note 39, at 120.

¹⁴⁰ 17 C.F.R. 240.19c-4 (1989); see also Jeffrey N. Gordon, *Ties That Bind: Dual Class Common Stock and the Problem of Shareholder Choice*, 76 CALIF. L. REV. 1 (1988).

¹⁴¹ George J. Benston, *Required Disclosure and the Stock Market: An Evaluation of the Securities Exchange Act of 1934*, 63 AM. ECON. REV. 132, 133 (1973); George J. Stigler, *Public Regulation of the Securities Markets*, 37 J. BUS. 117 (1964).

¹⁴² Gordon, *supra* note 140, at 5-7.

D. The NYSE as Provider of Reputational Capital for Listing Firms

Another important attribute of listing on the NYSE is the fact that obtaining a listing confers prestige on the listing firm and enhances its reputation. Because it is costly for buyers to obtain, interpret and verify information about the firms in which they may want to invest, such investors will pay to have "reputational intermediaries" serve as a filter.¹⁴³

For many years, the NYSE was the dominant provider of reputational capital in the economy. Over time, however, the NYSE's role as a purveyor of reputational capital has dissipated for a number of reasons. First, as the legal and regulatory system has become more complex, firms have obtained the services of other reputational intermediaries such as accountants, lawyers, and investment bankers. When accountants audit financial documentation such as annual reports, and lawyers review similar material such as registration statements and proxy solicitation literature, they are not only risking potential legal liability, they also are staking their own reputations for good judgment and integrity on the decisions they make. Even unknown issuers can obtain considerable prestige by hiring the services of a "white shoe" law firm or a "big six" accounting firm, the price of whose services includes the value of the reputational benefit conferred upon the unknown issuer. As noted above, it is rational for investors to rely on these reputational intermediaries, because they have more to lose from the diminution in their reputation than they have to gain from the proceeds from a one-time fraud.

The above argument applies with particular force to the services performed by investment bankers. As Gilson and Kraakman have pointed out, unlike issuers, investment bankers have no incentive to engage in one-shot frauds on investors:

In essence, the investment banker rents the issuer its reputation. The investment banker represents to the market (to whom *it*, and not the issuer, sells the security) that it has evaluated the issuer's product and good faith and that it is prepared to stake its reputation on the value of [whatever the company is selling]. Moreover, because the investment banker, unlike the issuer, is certain to be a "repeat player" in the capital markets, there are no final period problems to dampen the signal of value.¹⁴⁴

Thus lawyers, investment bankers, and accountants all serve as close

¹⁴³ Gilson & Kraakman, *supra* note 17, at 618-21.

¹⁴⁴ *Id.* at 620 (emphasis in original).

substitutes for the services of the exchange in providing reputational capital.

The anti-fraud provisions of the securities laws also have caused a diminution in the value of the NYSE as a provider of reputational capital. Investors do not need such strong assurances of issuer quality when they know that they can recover damages for misstatements or material omissions by corporate management.¹⁴⁵ In this regard, Rule 10b-5 is a particularly forceful deterrent, but liability under the Securities Act of 1933 also is a significant factor in reducing the demand for independent monitoring by the NYSE.¹⁴⁶ The Securities Act of 1933 requires issuers to file a registration statement with the SEC in connection with any public offering of securities.¹⁴⁷ The Act also permits those who purchase securities in public offerings to recover against the principal executive and financial officers of the issuing firm, every person on the board of directors, every underwriter of the securities, and every expert, including accountants, as to those portions of the registration statement for which such experts were responsible.¹⁴⁸ Investors may recover where there are any statements in the registration statement that are either false or misleading, as well as for material omissions of facts that should have been stated.¹⁴⁹

Thus, any time a firm wants to send a highly credible signal that its securities are valuable, it need only make a public offering of its securities in the marketplace. As Judge Easterbrook has observed, such an offering not only subjects issuers to potential liability under the securities laws, it also subjects issuers to screening by investment bankers and other professional market intermediaries who serve as monitors for the collective interests of the investing community.¹⁵⁰ Thus, we observe firms going to the capital market to obtain funds far more often than would be necessary in the absence of a need to assure investors that management is maximizing value for shareholders.¹⁵¹ These trips to the capital market are a direct

¹⁴⁵ See, e.g., *Basic, Inc. v. Levinson*, 485 U.S. 224 (1988).

¹⁴⁶ See 15 U.S.C. § 77 (1988).

¹⁴⁷ See *id.* § 77e(c).

¹⁴⁸ See *id.* § 77k.

¹⁴⁹ The only defense (and even this defense is not available to the issuer) to a cause of action under this section of the Act is for those involved in the preparation of a registration statement to show that they performed an adequate due diligence investigation. This requires defendants to establish that they performed a reasonable investigation into the affairs of the issuer, and that they had reason to believe, and in fact did believe that the registration statement was accurate and complete. See *Escott v. Barchris Constr. Corp.*, 283 F. Supp. 643 (S.D.N.Y. 1968).

¹⁵⁰ Easterbrook, *Two Agency-Cost Explanations of Dividends*, *supra* note 134, at 654.

¹⁵¹ *Id.*

substitute for the services of the NYSE as a reputational intermediary.

Still more substitutes for the NYSE's services as a reputational intermediary come in the form of stock brokers, investment advisers, and pension fund managers. These market professionals hold themselves out to investors as experts at evaluating investments. And, unlike the NYSE, these informational and reputational intermediaries provide a product that is custom-tailored to particular investors. A listing on the NYSE only signals investors that a particular firm is big enough and financially sound enough to qualify for such a listing. For a firm to be recommended by a reputable broker or other intermediary, it must not only be financially sound, it should also be the sort of investment that meets the particular needs of the investor. This is a service that the NYSE does not offer.

Thus not only have substitutes emerged for the services of the NYSE as a reputational intermediary, but the various anti-fraud provisions of the Securities Laws have diminished investor demand for *ex ante* bonded promises of value, such as that conveyed by having a good reputation. The securities laws have provided strong remedies *ex post*.

III

THE TOKYO STOCK EXCHANGE

Capital markets are becoming increasingly international. As such, it is not surprising that many of the same factors that led to the emergence of close substitutes for the services provided by the NYSE also exist in Tokyo. For example, the market mechanisms by which liquidity is provided are identical in both markets, in that the same market forces that lead to liquidity on the NYSE also create liquidity on the TSE. In particular, rivalrous competition among the big four Japanese securities firms, both for brokerage revenues and for underwriting profits, mirrors the competitive situation among market professionals in the United States.

Despite the important similarities between the two exchanges, we find that issuers and investors do not perceive that good substitutes for the TSE yet exist. Consequently, demand for listing on the TSE is far more inelastic than demand for listing on the NYSE.

There are important differences between the TSE and the NYSE that may account for the difference between the competitive environment faced by the NYSE on the one hand and the TSE on the other. First, the function ostensibly served by the specialist firms on the NYSE is conducted by the *saitori* member firms on the TSE. Unlike the specialist firms in New York, however, the way in which the *saitori* member firms serve to maintain fair and orderly

markets is quite limited.¹⁵² In fact, they are accountable for execution of orders only, and are prohibited from taking positions in the securities for which they are responsible. As we discuss below,¹⁵³ this regulation has certain benefits. In particular, it enables the *saitori* member firms to serve as better monitors, and alleviates confusion among market participants as to the source of market liquidity.

Second, the over-the-counter market is far less developed in Japan than in the U.S., and there is yet no equivalent in size to the automated quotation system provided by NASDAQ.¹⁵⁴ Article 191 of the Japanese Securities and Exchange Law ("JSEL"),¹⁵⁵ which prohibits anyone from providing a forum that would be similar to an exchange, has impeded the emergence of a trading market over the counter. Thus issuers whose shares trade in the over-the-counter market face higher transactions costs than firms whose shares trade on the TSE.

Third, unlike the U.S., there is virtually no securities fraud litigation in Japan.¹⁵⁶ In particular, we see no cases of criminal prosecution or civil litigation for insider trading, even though the JSEL has relevant provisions.¹⁵⁷ Consequently, investors do not expect to obtain *ex post* recovery for securities fraud or stock price manipulation. It is therefore not surprising that Japanese investors have a higher demand than U.S. investors for monitoring by the exchange and the primary regulator, the Ministry of Finance ("MoF").

A. Liquidity on the TSE

There are three important differences between the rules on the NYSE and the TSE that may affect the way in which liquidity for listed stock is supplied. First, the trading system of the TSE is "order driven" rather than "quotation driven." Order matching is un-

¹⁵² See *infra* text accompanying notes 160-66. It should be noted at the outset that although Japanese *saitori* member firms are often said to be obliged to "maintain fair and orderly markets," their obligations are quite different from those imposed upon specialists on the NYSE.

¹⁵³ See *infra* text accompanying notes 160-65.

¹⁵⁴ See *infra* text accompanying notes 167-68.

¹⁵⁵ Japanese Securities and Exchange Law, Law No. 25 of 1948, as amended to 1988, reprinted in CAPITAL MARKETS RESEARCH INSTITUTE, SECURITIES AND EXCHANGE LAW (1988) [hereinafter JSEL].

¹⁵⁶ For an exceptional but interesting case involving civil liability for fraud by a securities firm in Japan, see *infra* notes 169-70 and accompanying text.

¹⁵⁷ See Article 58 of JSEL, a counterpart of Section 10(b) of the Securities Exchange Act of 1934 in the United States. Note that the rules on insider trading were strengthened substantially in the 1988 amendments. For example, a counterpart of Section 16(a) of the U.S. Securities Exchange Act was reintroduced as Article 188 of the JSEL. See generally KAZUMI OKAMURA & CHIEKO TAKESHITA, LAWS AND REGULATIONS RELATING TO INSIDER TRADING IN JAPAN (1989).

dertaken in accordance with the principles of price priority and time priority. Member firms can negotiate deals "off-board," *i.e.*, outside the system, but off-board deals must be put through the system.¹⁵⁸ This order-driven system mirrors the reality of stock trading, inasmuch as it enables the stock exchange to be a passive forum through which a variety of professionals meet.¹⁵⁹

Second, on the TSE, the function ostensibly served by the specialist firms is conducted by the "saitori" member firms. There is, however, an important difference between specialists and saitori members. Saitori member firms, unlike "regular" member firms, are prohibited from trading for their own account, not only on their specialty stocks, but in any other listed stocks as well.¹⁶⁰ Consequently, the saitori firms serve as pure "conduits," matching buy and sell orders placed by regular member firms.

Regular member firms are represented by "trading clerks" and saitori member firms are represented by "intermediary clerks" on the trading floor. The intermediary clerk is obliged to enter the bid-asked prices given by orders from the trading clerks in his book and announce them to the crowd in an audible voice whenever necessary to maintain a fair and orderly market. This duty of the saitori members is important when there is a large and active crowd around the trading post for a certain stock, and trading clerks are dealing actively among themselves rather than through the intermediary service. In such circumstances, the intermediary clerk responsible for the stock must represent the orders in his book so that traders who have placed orders do not miss the market when it moves in the appropriate direction for these orders. Aside from this extraordinary situation, the intermediary clerk is obliged to announce the bid-asked prices in his book when asked by a regular member.

¹⁵⁸ Constitution of the Tokyo Stock Exchange, art. 23. Also, note the exception, among others, that member firms may trade on another stock exchange.

¹⁵⁹ See TOUCHE ROSS MANAGEMENT CONSULTANTS, *supra* note 11, at 28 ("The absence of a central limit order system has . . . led to a dependency on market-makers as the source of liquidity."). Note that the NYSE trading system is quote-driven but limit orders are placed on the specialists' books, while NASDAQ does not have a formal centralized limit order system at all. The advantages and disadvantages of the order-driven and quote-driven systems have been much discussed in the past. As far as liquidity is concerned, however, the debate over which system is better is pointless unless one looks at the reality in the market, where the rivalrous competition among professionals is the real source of liquidity. The lack of a centralized limit order system, as in NASDAQ, may affect the monitoring functions by the organization in the sense that broker-dealers' contractual obligations to their customers for trading become more important for monitoring purposes.

¹⁶⁰ See Constitution of the Tokyo Stock Exchange, art. 8, § 2; Business Regulations of the Tokyo Stock Exchange, § 37. The description of the saitori system in the text is based on THE TOKYO STOCK EXCHANGE, THE "SAITORI" SYSTEM OF THE TOKYO STOCK EXCHANGE (October, 1984).

An interesting question is whether the limit-order book should be disclosed to the trading clerks on the floor. Unlike the NYSE, the TSE has no rule that prohibits disclosure of the *saitori's* book. As a result, trading clerks as well as Exchange employees can look at the book, which is set on the counter of a trading post in front of the intermediary clerk, and know from time to time how many shares regular members are offering or bidding on the book at what prices.

Saitori members must record all transactions in their specialty stocks in a trade report sheet, whether they are executed through their intermediary service or directly between the regular members in the crowd.¹⁶¹ For this record-keeping purpose, the Exchange rules oblige the selling member to report his trade to the *saitori* member who handles the stock immediately after it is consummated between the trading clerks in the crowd without intermediary service.¹⁶² The trade report sheets are collected and automatically read through an Optical Character Reader on the floor of the exchange. The Reader produces the trade report sheets that are sent to each regular member. Trading clerks must confirm their transactions on those sheets.¹⁶³ After confirmation by the regular members, the memory tapes of those transactions are sent to the Exchange's wholly owned company for processing, clearing and settlement of the contracts.

In our view, the *saitori* system described above has two advantages over the NYSE Specialist system. First, this system alleviates confusion among market participants as to the source of market liquidity. Indeed, the *saitori* system is structured in a way that purifies the roles of regular member firms as liquidity suppliers. The *saitori* system assures that pertinent information is disseminated to regular member firms and the marketplace. There is intense competition for trading profits among member firms, particularly among the four big securities firms,¹⁶⁴ and this competition for trading profits, combined with a desire to attract new underwriting business, provides ample incentives for the securities firms to serve as a source of liquidity.

Second, this system enables *saitori* member firms to serve as better monitors, as well as to support the monitoring functions of the exchange, the regulator and the market itself. Monitoring by *saitori* members, the exchange and the regulator is facilitated by the fact that, like the NYSE, the TSE is in a central physical location,

¹⁶¹ Business Regulations of the Tokyo Stock Exchange § 35.

¹⁶² *Id.* § 22.

¹⁶³ *Id.* § 24.

¹⁶⁴ The "big four" Japanese securities firms are Daiwa, Nikko, Nomura and Yamiichi.

which, along with the reporting mechanism described above, lowers search and transaction costs to traders, and enables *saitori* members, the exchange and the regulator to oversee all trading.

Once the role of *saitori* member firms is properly identified, one might well wonder whether their task could be done largely by computer. Indeed this is exactly the case for infrequently traded stocks on the TSE.¹⁶⁵ Trading of these stocks is not conducted on the floor. Rather, buy and sell orders are shown on a computer display screen so that the only task of the intermediary clerk is to press the key to match orders and execute trades.¹⁶⁶ Here, the role of *saitori* members is simply to monitor trading patterns.

Finally, the third difference that exists between the U.S. and Japanese systems relates to the over-the-counter securities markets. Section 191 of the JSEL prohibits anyone from setting up a place that would be "similar" to an exchange,¹⁶⁷ which resulted in a much less developed over-the-counter market in Japan. Although various efforts have been made to foster the over-the-counter market in Japan during past years, a customary understanding remains that the over-the-counter market should be a market used by firms as a step to future listing at a stock exchange.¹⁶⁸

We cannot defend underdevelopment of the over-the-counter market in Japan. Inasmuch as the competition among securities firms is the primary source of secondary market liquidity, there is no reason to thwart the development of the over-the-counter markets. The question again is what is the best way to monitor the transactions that take place in the over-the-counter market. The current Japanese rules as well as the customary understanding generate more costs than benefits in the market place.

¹⁶⁵ TSE has a computer-aided system known as the Computer-Assisted Order Routing and Execution System ("CORES"). For the details of the system, see TSE PROFILE, *supra* note 59, at 13-15. "[A]bout 1,540 issues out of 1,690 all listed domestic and all foreign stocks are currently traded by [CORES, and] only the 150 most active domestic stocks [are traded on the floor]." TSE FACT BOOK, *supra* note 3, at 35.

¹⁶⁶ Note, however, that the CORES is designed to execute orders automatically if such orders are to be executed at the same price as the last traded price. In addition, an intermediary clerk may give a narrow price range to CORES to enable the system to execute a trade automatically within the range. See TSE PROFILE, *supra* note 59, at 14-15.

¹⁶⁷ Article 191 of JSEL reads: (1) No person shall open any facilities which are similar to a securities market. (2) No person shall effect any transaction set forth below on any facilities referred to in the preceding paragraph: (i) buying or selling securities" Article 2(12) of JSEL defines a "securities market" as "a market provided by a securities exchange for trading, etc. in securities."

¹⁶⁸ For a good description of the historical development and the current state of the Japanese over-the-counter market, see TAKEJI YAMASHITA, JAPAN'S SECURITIES MARKETS: A PRACTITIONER'S GUIDE 144-52 (1989).

B. Monitoring on the Tokyo Stock Exchange

A great concern for investors in Japan as well as in the U.S., is the effectiveness of stock manipulations and insider trading monitoring. Small investors are poorly equipped to detect fraudulent transactions by market professionals. In Japan, investors rely heavily on the stock exchanges to monitor trading in listed securities. Indeed, there is only one reported case that involves civil liability for fraud in this field in Japan.¹⁶⁹ In this case the plaintiff, who suffered substantial loss from an alleged stock price manipulation by his brokerage firms, unsuccessfully sued the TSE and the Osaka Stock Exchange for their failure to detect the alleged fraud and to take corrective actions.

Unlike the U.S., Japan has virtually no history of civil litigation over fraudulent transactions of market professionals despite comparable statutory provisions that prohibit fraud on the stock market.¹⁷⁰ Consequently, Japanese investors have a particularly high demand for *ex ante* monitoring by the exchanges and by the MoF. The TSE has responded to this demand by offering computer-aided "stock watch" programs, similar to the ones found in the U.S. Also, recent revisions to insider trading regulations were immediately followed by new TSE rules requiring listed firms to file important information from time to time at the stock exchange.¹⁷¹ And, the strong ties that exist in Japan between the Exchange and the Ministry of Finance enhance the Exchange's role as monitor.

The *saitori* member firms play an important role in the monitoring. Since *saitori* member firms are prohibited from trading in any listed stocks, there are no conflicts of interest between their responsibilities to act as market makers and their obligations to act as monitors of trading patterns on the Exchange. Rather, the *saitori* system, which itself is carefully monitored by TSE floor clerks, can effectively support monitoring activities of the exchange and the regulator when combined with the trade information reporting system as described earlier.¹⁷²

C. Provision of Off-the-Rack Rules by the TSE

Unlike the NYSE, the TSE has not developed off-the-rack legal rules for use by its members. It should be noted, however, that under the rules of the TSE, the Exchange requires listed companies,

¹⁶⁹ *Nojima v. Tokyo Stock Exchange*, 1020 Hanrei Jiho 129 (Tokyo District Court Judgment, April 27, 1981).

¹⁷⁰ See, e.g., JSEL, Articles 58, 125-27.

¹⁷¹ *Kubo, Kaisha Joho no Tekiji Kaiji to Fairingu Seido* (Timely Disclosure of Corporate Information and the Filing System), 1176 *Shoji Homu* 2 (1989) (in Japanese).

¹⁷² See *supra* text accompanying notes 161-63.

as a condition of remaining listed, to give immediate notice to the Exchange whenever anything occurs having an important effect on the company's management and whenever any important corporate decision is made.¹⁷³ The principal items considered "important" are illustrated in the rules.¹⁷⁴ Specifically, important effects on management include but are not limited to dishonor of a promissory note or check, the commencement of bankruptcy or corporate reorganization procedure, suspension of business and the drastic change of the nature of the company's business. Corporate decisions that are considered important include the issuance of new stock or dividends, the reduction of capital, merger with another firm, consolidation or split of shares, a change in par value, and a change in the class of stock.¹⁷⁵ In addition, the Exchange may ask listed companies to furnish it with pertinent information or to submit documents to it "when it is deemed necessary."¹⁷⁶

These general rules enable the TSE to exercise broad supervisory powers when necessary to "represent" public investors. This offers an *ex ante* counterpart to the U.S. enforcement of fiduciary rules under state corporation laws, which are dormant in practice in Japan. Recalling that litigation in Japan is scarce, it is likely that the demand for listing on the TSE is strong because it is difficult for investors to find *ex ante* substitutes outside the exchange.

D. The TSE as Provider of Reputational Capital for Listing Firms

In Japan, issuing firms strongly prefer to be listed on the TSE. Japanese lawyers, accounting firms, rating agencies, and investment bankers may not really be independent of issuing firms in the way they are in the United States. Consequently, such firms do not provide close substitutes for the TSE's role as a reputational intermediary. More importantly, the strong ties between the TSE and the prestigious Ministry of Finance greatly contribute to the prestige enjoyed by listing firms in Japan. Little experience of *ex post* enforcement of the Japanese counterparts of U.S. anti-fraud provisions enhances the investors' demand for *ex ante* signalling about issuing firms.

Another important distinction between the TSE and the NYSE enhances the TSE's role as a reputational intermediary for listing firms relative to that of the NYSE. While the NYSE's listing stan-

¹⁷³ Tokyo Stock Exchange, Regulations on the Reporting by the Issuers of the Listed Stocks (July 1, 1971, as amended).

¹⁷⁴ *Id.* § 2.

¹⁷⁵ *Id.* § 5.

¹⁷⁶ *Id.* § 3.

dards represent both necessary and sufficient conditions for becoming listed on that exchange, the TSE's listing criteria state only the minimum requirements necessary to apply for a listing. After a firm completes its application, the TSE conducts a thorough examination of the candidate company's financial stability, profitability, management quality, and competitive position. TSE employees interview employees of the applicant company, and conduct an extensive document review. The examination is considered very strict, and "it is inconceivable that a company which barely satisfies the 'listing criterion' [would be] admitted for listing."¹⁷⁷

CONCLUSION

In this Article, we have defined more precisely the product that organized stock exchanges provide to the listing companies who are their clients. To do this, we unbundled the product offered by such exchanges into four component parts and analyzed each part separately. These component parts include: (1) providing liquidity to investors, (2) monitoring fraud such as insider trading and stock price manipulation by market professionals, (3) offering off-the-rack legal rules that reduce the costs of contracting within the firm, and (4) serving as a reputational intermediary.

We then analyzed each of these component parts of the operations of the NYSE and the TSE. We have shown that liquidity on both exchanges results from each exchange stimulating an auction market in which market professionals and other information processors can meet and exchange information about a firm's value by buying and selling shares. The exchanges provide a centralized location that facilitates information production and dissemination, and rivalrous competition among market professionals.

It is generally thought that exchange specialists provide liquidity to firms whose shares are listed on the NYSE. We have shown that this is, in fact, not the case. Specialists can do little to provide liquidity in modern securities markets dominated by institutional investors, block trading, and the operation of dynamic hedging strategies such as portfolio insurance.

On the TSE, the function ostensibly performed by specialists is performed by the four *saitori* member firms. We have argued that, in modern trading markets, neither specialists nor *saitori* members should be expected to provide liquidity for the secondary trading markets; rather, the securities firms who are exchange members

¹⁷⁷ *Memorandum of Mitsuhiro Hasegawa*, Johnson Graduate School of Management Class of 1990, Cornell University and member, Listing Department, Toyko Stock Exchange.

provide liquidity. Despite the realities of modern corporate finance, which make it impossible for single firms to provide liquidity to the marketplace as a whole, both the SEC and the NYSE seek to perpetuate the myth that exchange specialists are the source of secondary market liquidity for listed stocks. By contrast, we view the rules of the TSE as far more realistic in that there are no legal or regulatory expectations that *saitori* members will provide market liquidity. Instead, rivalrous competition among exchange members, particularly the "big four"—Daiwa, Nikko, Nomura, and Yamaichi—serves the function ostensibly allocated to exchange specialists on the NYSE. We have shown that trading profits for these firms, in combination with a desire to build and maintain the reputational capital necessary to attract new underwriting business, provide these firms with sufficient incentives to maintain fair and orderly secondary trading markets. By contrast, the exchange specialists lack the capital and the economic incentives to provide secondary market liquidity. Thus we have found that like the TSE, secondary market liquidity is in fact provided by the major trading firms on the NYSE. We predict that over time competitive pressure will cause the exchange specialist system to evolve into a function very similar to that played by *saitori* member firms. In particular, we have argued that because *saitori* member firms do not take positions in the issues they oversee, they do not have the same conflicts of interest that prevent exchange specialists from serving as effective monitors of trading activity.

We also have observed that the market processes by which liquidity is provided on both the TSE and the NYSE are identical to the processes by which liquidity is provided in the over-the-counter market in the U.S. Indeed, the computer linkages provided by NASDAQ have transformed the U.S. over-the-counter market into an electronically linked exchange. As such, from the perspective of a firm considering whether to list its securities on the NYSE, the over-the-counter market provides a close substitute for an exchange. The absence of a highly developed over-the-counter market in Japan creates a greater demand for TSE listings by Japanese companies.

The second economic function served by the organized stock exchanges is a monitoring function. Firms whose shares are listed on both exchanges are subject to oversight in the form of so-called "stock watch" programs designed to uncover instances of insider trading and market manipulation. While these services are of real value to investors, we have argued that the securities laws of both countries are performing similar services that traditionally were performed by the exchanges. In addition, advances in computer tech-

nology make it possible for exchange transactions to be monitored in the over-the-counter securities markets as easily as they are monitored on the floor of an exchange. Once again, however, there appear to be close substitutes for listing on the NYSE that do not exist for firms considering listing on the TSE. In particular, the ample litigation opportunities for Americans allow investors to recover losses from fraud and stock price manipulation, and reduce the demand for monitoring by the NYSE. In addition, U.S. firms can obtain monitoring from independent accountants, independent investment bankers and lawyers in the process of going public more easily than Japanese firms because these informational intermediaries are more independent of issuers in the U.S. than in Japan.

The third service traditionally offered by stock exchanges has been the provision of convenient, standard form off-the-rack rules for listed firms. These off-the-rack rules greatly reduced the costs of transacting for listed firms, and were clearly of value at one time. As with the monitoring function provided by the NYSE, however, other providers of this service have emerged. In particular, state legislatures provide off-the-rack rules in connection with their chartering function, and the SEC promulgates such rules in connection with their administration of the various federal securities laws. In Japan, the MoF provides an oversight role that complements the role played by the TSE.

A final service traditionally offered by the NYSE is the provision of reputational capital for listing firms. In the past, an exchange listing was of value to the listing firm because it provided a signal of quality to other market participants who may have had poor access to alternative sources of data. The technology revolution has changed this situation dramatically. Now market participants can obtain easy access to current information about issuing firms through a variety of publications and data base services. In addition, rating agencies provide a signalling function to issuing firms that clearly rivals the signalling function provided by the exchanges. Finally, issuing firms who are attempting to signal the market that they are of high quality can hire law firms, accounting firms, commercial banks and investment banks who enjoy significant international reputations. By hiring such financial and informational intermediaries, issuing firms convey to the market a signal of high quality.

Finally, the process of going public requires issuing firms to register their securities with the Ministry of Finance or the SEC, and to comply with a wide variety of rules and regulations. And all firms with publicly traded stock are subject to the anti-fraud provisions of

the securities laws, including Rule 10b-5. The presence of this regulatory regime diminishes the market's demand for reputational signalling because breaches of trust can be more effectively monitored *ex post* through the legal system, alleviating the demand for monitoring *ex ante*.

For all of these reasons, market demand for the listing services of the organized stock exchanges, which traditionally was quite inelastic, has diminished considerably. In particular, the rise of the modern securities firm, which provides both liquidity and reputational signalling for client firms, has diminished the market demand for the organized exchanges. Any regulatory reform without the proper recognition of today's functions of organized stock exchanges would thus easily be misdirected.