Bloomberg

Bloomberg L.P.499 Park Avenue
New York, NY 10022
Tel +1 212 318 2000
Fax +1 917 369 5000
bloomberg.com

January 25, 2005

U.S. Securities and Exchange Commission
450 Fifth Street, N.W.
Washington, DC 20549
Attention: Jonathan Katz, Secretary

Re: Release No. 34-50870 (December 15, 2004); File No. S7-10-04

Ladies and Gentlemen:

This letter is in response to the Commission's request for comment in the above-captioned release (the "Release"), in which the Commission has re-proposed for comment its Regulation NMS and specifically sought comment on two alternative versions of its proposed trade-through rule, Rule 611 under the Securities Exchange Act of 1934 (the "Exchange Act"), one the Voluntary Depth Alternative and the other the Market BBO Alternative. We are pleased to respond to the Commission's request.

We commend the Commission for focusing attention on the important topics Regulation NMS would address. In the main, we support and endorse the thrust of the Commission's approach to the extent it seeks to improve the liquidity and transparency of the national market system and improves the competitiveness of the U.S. markets. The sub-penny trading rule deals with minimum permissible trading increments and establishes a reasonable floor, at one cent. The market access rule deals reasonably with issues pertaining to fair access to trading facilities, but the proposed expansion of access fees is not sound, in our view. The proposed trade-through rule, we suggest, is not focused in the right direction for it deals with issues as to whether investor limit orders should be given regulatory protection, rather than promoting transparency and access more directly and placing greater reliance on brokers' and investment managers' best-execution duties. The Commission's formula for allocating market data revenue does not address the level of fees, which we think are excessive. In addition, it will not ensure fair, reasonable and non-discriminatory access to the depth-of-book data essential to a sound national market system unless the Commission also makes appropriate adjustments to the Quote Rule, the Limit Order Display Rule and Vendor Display Rule. We discuss several of these issues below.

**The National Market System
Does Not Need a Trade-Through Rule**

We do not believe a trade-through rule is necessary to achieve the goals of the national market system. For reasons we discuss more fully below, we consider it particularly inappropriate to extend a trade-through rule to the OTC market. We would respectfully submit that the goals of the national market system can be most fully and effectively realized with greater transparency and unintermediated access to firm quotations. Greater mandatory transparency, that is, the display of liquidity beyond the national best bid and offer (the "NBBO") would make for a better, more competitive national market system. If we had greater transparency and immediate electronic access to depth-of-book quotations published by market centers, limit order display and liquidity would be encouraged, liquidity in the national market center would increase, and the perceived need for a trade-through rule would diminish. We discuss these matters before discussing the alternative versions of a trade-through rule because we think the Commission's ultimate goals can better be achieved through rules aimed directly at enhancing transparency and access to quotations beyond the NBBO than they can through the regulatory apparatus of a trade-through rule.

There is an Alternative to a Trade-Through Rule:
Expanding the Limit-Order and Vendor Display Rules and
Requiring Immediate and Effective Access to Firm Quotations

We have previously advised the Commission that the Vendor Display Rule is an antique. It no longer achieves its stated objective. Since decimalization introduced 100 price points to the dollar in place of the previous eight or sixteen, the amount of liquidity available at the NBBO is much smaller than before and, as a result, there has been a dramatic diminution in transparency and liquidity at the inside quotations.

We publish data on equity markets throughout the world. Every significant market other than those in the United States and Mexico currently publishes real-time quotations at a minimum of five levels deep for all investors to see and provides immediate access electronically. The United States should not continue to lag those markets.

We think the Commission's objectives of greater transparency, access and liquidity possibly could be advanced through a trade-through rule, but would be better achieved if the Commission did the following:

- Amend the Limit Order Display Rule, Exchange Act Rule 11Ac1-4, to require exchanges, market makers and other market centers (including ECNs) to publish any customer limit orders received or communicated to others within five cents of their best published quotations (that is to say, five cents above the best offer and five cents below the best bid).

- Require all market centers to have their published quotations be firm and immediately "touchable" electronically by members or participants and, through systems such as the NYSE's Direct+, by nonmembers electronically enabled by members.

- Require all market centers to give absolute price and time priority to all displayed quotations over all undisplayed quotations or orders (e.g., undisplayed NYSE Floor orders and ECN reserve orders).

- Require exclusive securities information processors ("ESIPS") to limit their fees, charged to data providers and data purchasers, to cost-based amounts, plus a reasonable return on necessary capital.

- Extend to depth-of-market quotations the Commission's 30-cent per 100 shares cap on access fees.

- Amend the Vendor Display Rule, Exchange Act 11Ac1-2, to require vendors, such as Bloomberg L.P., to carry on the same terms as top-of-file quotations all depth-of-book quotations published by any market center as that term would be defined in Rule 600 of proposed Regulation NMS, with the possible exception of market centers whose share of volume is insignificant.

We think the course of action we recommend would promote the following beneficial effects:

- There would be a greater incentive than there is today to place limit orders. Today, for example, a market professional can obscure a large order at the NBBO by jumping ahead of it for a penny. As a result, the original limit order is no longer visible or accessible. The same result would obtain if the Market BBO Alternative proposed in the Release. In effect, investors are penalized for quoting aggressively. With the approach we recommend, pennying an order would not block disclosure of or access to the original limit order.

- The combination of mandatory transparency and fair access to quotations beyond the top of file would benefit all investors and other market participants and make for a more transparent and liquid national market system.

- Brokers and institutional investors would have to be able to reach all sources of published liquidity to meet their best-execution obligations. The best-execution duty today resides with investment managers and brokers; this is where it should be, not with market centers. Exchanges and market centers should not be required to establish routing facilities to other markets. Already existing wire connections and smart routers should provide cost-effective means of directing order flow to the markets offering the

> deepest liquidity at the best prices. If investment managers and brokers today have been lax in living up to their duty, they should be reminded of their duty not to bypass better prices. Auditing of these duties, if done effectively, would reduce inappropriate trade throughs and make a trade-through rule unnecessary.

If, after providing for increased transparency and access, as we suggest, the Commission nevertheless determined in time that those measures had not achieved the objectives of the national market system, including more aggressive quoting by investors and increased competition among markets, a trade-through rule could be introduced.

The Studies Published by the Commission in Support of a Trade-Through Rule are Flawed[1]

Neither the arguments nor the evidence for a trade-through rule in the exchange markets are particularly compelling. The experiences to date with the complaint-activated and little-used Intermarket Trading System ("ITS") trade-through rule do not demonstrate any benefits to investors and other market participants. The ITS trade-through rule is largely unenforced.

The arguments for a trade-through rule in the over-the-counter market in Nasdaq securities are weaker still. The OEA Trade Through Study seeks to compare trade throughs in Nasdaq securities with trade throughs in exchange-listed securities, but we believe it may significantly overestimate the incidence of trade throughs in the OTC market. The study does not say much about the methodology used, but it seems likely that the study's methodology produced a disproportionate number of false positives because it failed to examine why the trade throughs it observed occurred. We expect many of the trade throughs were due to conditions not involving actual trade throughs, including (a) locks, crosses and other dysfunctional results of ECN access fees, and (b) race conditions in which orders that were intended to sweep markets were executed in sequences that looked like trade throughs but were not and (c) the effect of reserve and replenishment on perceived trade throughs.[2]

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1 *See*, "Analysis of Trade-throughs in Nasdaq and NYSE Issues," Memorandum to File from SEC Office of Economic Analysis (December 15, 2004) (the "OEA Trade Through Study"); *see also*, "Comparative analysis of execution quality on NYSE and NASDAQ based on a matched sample of stocks," Memoranda to File from SEC Office of Economic Analysis (December 15, 2004), available at http://www.sec.gov/spotlight/regnms.htm#studies.

2 The exception for market sweep orders in the Commission's proposed trade-through rule would recognize this problem. The fact that the proposed rule would recognize the problem does not, of course, cure the problem in relying on the conclusions of the OEA Trade Through Study, which do not reflect any similar recognition of the problem.

Many of the trade throughs observed in the study occurred in Nasdaq's SuperMontage and were the result of prints through Nasdaq. These trade throughs can be explained, in part, by Nasdaq market makers' over-reliance on Super Montage in lieu of developing and using their own smart routers to provide alternatives to their internalization of customer orders. A second reason is the desire of all market centers — the NYSE as well as OTC market centers — to internalize order flow. As noted above, the solution to this problem is more vigorous surveillance of the investment managers' and brokers' performance of their best-execution duties.

In the year since the OEA Trade Through Study was undertaken and concluded, Nasdaq purchased BRUT ECN in 2004, providing it with smart-routing capabilities. Once the integration of the two systems is complete, trade throughs on the Nasdaq market should be reduced, without the imposition of additional regulation.

During the study dates, the Archipelago Exchange ("ArcaEx") platform operated an external order router that permitted orders in the ArcaEx platform to reach better-priced liquidity outside of ARCA. Externalizing orders materially decreases the occurrence of trade throughs, as evidenced in the OEA Trade Through Study. Those findings support the conclusion that markets operating under rules (in this case, ArcaEx's own rules) that limit trade throughs can effectively reduce and limit trade throughs for both large and small trades. The OEA Trade Through Study does not automatically support the conclusion that a trade-through rule is needed to make Nasdaq reduce the incidence of trade-through rules on its market.

Two additional factors that have distorted the study are the effect of access fees on the occurrence of locks and crosses and the effect of reserve. Because of access fees, competing market centers engage in access-fee arbitrage, locking the market to garner an access fee rather than relying on anti-lock mechanisms and shipping orders. Our own data indicate that in the three-month period ending in March 2003, other market centers locked or crossed our clients' posted limit orders in Nasdaq 100 stocks 19 per cent of the time. In response, we deployed a trading tool that enables our clients to counter locks and crosses of their orders. On September 8, 2004, we took the 50-day average intraday bid/offered spread on Nasdaq 100 stocks and determined for the period that the bid/offered spread for 37 of the Nasdaq 100 stocks was less than a penny, indicating that they were locked or crossed. Nasdaq's own data indicate that the incidence of locks and crosses on its market extend beyond the Nasdaq 100 and Nasdaq has identified access-fee arbitrage as a primary cause of locks and crosses on its markets.[3] In addition, it is important to note that in a locked and crossed market, a false positive can easily be

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[3] *See* letter of Edward S. Knight to the Commission on behalf of The Nasdaq Stock Market, Inc. dated July 2, 2004 commenting on Regulation NMS (File No. S7-10-04) at p. 23 in text after note 28.

created even when adjusting trade data by using a three-second quotation window. Nasdaq data show an average duration of all locks and crosses of longer than three seconds.[4]

Another area of potential distortion for which the OEA Trade Through Study apparently did not consider is reserve. To encourage traders to offer liquidity, trading systems provide various functions, such as what is known as reserve, which enables traders to limit the quantities they display at their quoted prices and allows them to append to the displayed quantity an additional quantity that is called up when the displayed quantity is exhausted.[5] Reserve can bias the data when a "sweep" occurs. Since decimalization, more and more traders are "sweeping" the market — trading in effective three- to five-cent spreads, reaching beyond the NBBO to grab liquidity. Another possible source of false positives is sweep transactions. In a sweep, an order router will fire out against the display at several price levels virtually at the same time. If any of the quotations in the sweep have reserve associated with them, then a false-positive trade-through will be observed, that is, a print will occur at a price inferior to the quoted price of the reserve, which will have been re-displayed at what would then be a better price level.

How prevalent is this type of trading? Forty-seven percent of Bloomberg Tradebook's enabled clients are set to sweep the market in such a manner. We have put in place sequential and block-refire algorithms that enable clients to extract liquidity reserve when it is detected. ECN aggregators and less sophisticated systems than ours also sweep liquidity but may continue to fire against the market's display, creating multiple false positives. In fact, the OEA Trade Through Study noted that 75% of all trade throughs were 100-share transactions trading through quotations of equal or larger size. That would imply that a substantial amount of trade throughs are being created when the residual part of an order (sweep) is executed as reserve and is being redisplayed. Finally, the OEA Trade Through Study does not consider the possibility that an order that was traded through might not in fact have achieved an execution at its price had the order been instead directed to the market that was responsible for the trade through. It might be, for example, that another order would have gotten there first, so that the trade through in fact did not represent a real investor loss of an execution.

Only a central limit order book (a "CLOB") can produce a stream of quotations and prints that match up so that trade throughs do not occur. In a competitive marketplace, quotations and prints do not always match up, contributing to the appearance of trade throughs when in fact there may be none. Consider, for example, quoting and execution speeds. In the Regulation NMS hearings, the Commissioners engaged the panel to quantify and define an acceptable speed for determining how fast a quotation needed to update for a market to be

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[4] *Ibid*.

[5] NASD Rule 4623(c)(2) requires alternative trading systems to make reserve quantities available to all incoming orders from NASD members.

designated a fast market center. It is important to note that the discussion highlighted that quoting latency, in addition to execution speeds, need to be considered. In the electronic OTC market, Bloomberg Tradebook continually adjusts its routing algorithms to address quotation latency issues. For example, quotations between proprietary feeds and the national SIP are regularly skewed. Loads on machines can create problems with quotation updates and skew the two feeds. For Bloomberg Tradebook's routing algorithms to maintain the best picture of the national marketplace, we maintain real-time metrics to determine which quoting venue — the national SIP or proprietary feeds — has the more accurate quotation.

OATS reports for Nasdaq securities could have been used to determine if, when the trade through occurred, the order router fired several price points virtually simultaneously in a sweep, indicating that it did not intend to trade-though but the presence of Reserve or a latency problem created a false positive. The OATS data are available to the SEC staff, but there is no indication those data on quotation latency and false-positive trade throughs were used in the SEC's studies.

The OEA Trade Through Study suggests there are significant trade-through issues in the OTC market. The Study has been introduced into the trade-through discussion in support of extending a trade-through rule to the OTC market. The Study does not, however, support the conclusion that a trade-through rule is necessary for the OTC market. Instead, though methodologically flawed, the Study points to a market-based solution. The Study concedes that the trade-through rates are sensitive to the calculation methodology, including assumptions about quoted depth. The Study further concedes that trade through is not a major issue at ArcaEx (and the National Stock Exchange). We think it is likely that trade throughs are not a major issue there because the participants in those market centers have smart-routing systems in place.

We would expect in addition that the 1.5-2% trade-through occurrence on ARCA and the National Stock Exchange is probably the result of false positives generated from access-fee arbitrage, quotation-latency problems discussed above and the like. It is reasonable to conclude, based upon a review of the OEA Trade Through Study's data, that Nasdaq's contribution to the trade-through problem is a combination of its being unable to externalize orders and because block trades have printed there. With its acquisition of BRUT ECN, Nasdaq will be able to externalize orders, which should lower the incidence of trade throughs on Nasdaq. That development has not been driven by the imposition of a trade-through rule, but in response to the competitive pressures of the OTC marketplace. Combined consideration of the SEC study, its methodological gaps and subsequent developments in the OTC markets, strongly support the proposition that robust intermarket competition and innovation are reducing the trade-through problem to a negligible amount. The proposed trade-through rule would not eliminate trade throughs; only a CLOB could do that.

Market Access

We applaud the Commission's conclusion that sole reliance on the ITS is unnecessary today. Private linkages have proven themselves effective in the market for Nasdaq securities and can readily, quickly and inexpensively be adapted for use in exchange-listed securities. In our view, moreover, the Intermarket Trading System could likely be abandoned. Initially created to steer the Commission away from more robust alternatives to achieve national market system goals, the ITS has outlived its limited usefulness. In auditing the performance of investment advisers and brokers, one point of focus should be whether these fiduciaries have available to them the smart-routing technology that will enable them to route orders to the best prices.

Access Fees

Access fees — which the Commission allowed ECNs to charge when it adopted the Order Execution Rules — are dysfunctional and should be entirely abolished. We applaud the Commission's decision to abandon the convoluted approach suggested when Regulation NMS was first proposed, but we do not think the Commission has gone far enough. The Commission should not preserve access fees simply because the "business models" of some companies depend on them. They have been a continual source of mischief, such as rebating practices, and market disruption, such as locks, crosses and, we believe, many of the apparent trade throughs the Commission has observed. In addition, they promote internalization of orders, which removes liquidity from the national market system. There is no good argument for keeping these fees. The Commission's decision to retain them is, in our view, a substantial mistake.

We point out in that regard that the Commission's decision to expand the universe of parties that can charge such fees will likely induce the NYSE to begin charging them, which will add to the cost burden investors today bear. We question whether that is sound public policy.[6]

Market Data

We are not commenting in general on the formula the Commission now proposes for allocating market data revenues among market centers, but we do support the Commission's decision not to reward manual quotations in the formula.

The Commission discusses at some length the issue of the level of fees, but has been reluctant to deal more aggressively with the subject, deferring to the broader issue of SRO governance this important investor-protection issue. The Commission's approach to date appears to be based on the notion that the self-regulatory organizations have become accustomed to these excessive, government-protected subsidies and would have to find other sources of

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[6] We note that the 30-cent access fee cap applies only to protected quotations and that sweep orders may therefore lead to accounting issues, as a sweep order could easily hit non-protected quotes. We think sorting out after the trade which orders had the benefit of the cap would prove difficult. We suggest, therefore, that at least in the context of sweep orders, the cap should apply across all quotations, not just protected ones.

revenues or cut their regulatory programs if denied these subsidies. That approach, we respectfully suggest once again, is not consistent with the Commission's statutory mandate. The Commission should move swiftly and aggressively to reduce the level of revenues the SROs collect for market data. The argument that the SROs' self-regulatory programs should be supported by these fees is unpersuasive. In any event, the Commission has never required any vigorous cost accounting even of those costs.

As the Commission knows, depth at the NBBO was reduced from 12.5 cents to a penny upon the advent of decimalization. As result, depth-of-book data has become essential to investors. The Commission acknowledges the problem but rather than take the logical step of expanding the Vendor Display Rule to address the problem, the Commission has proposed to address it by reducing the display requirement under the Vendor Display Rule, eliminating the requirement to display a full montage of market BBOs. In support of its decision, the Commission states:

> The Commission does not believe that streamlining the consolidated display requirement would detract from the quality of information made available to investors. Reproposed Rule 603(c) would continue to require the disclosure of basic information (i.e., prices, sizes and market center identification of the NBBO, along with the most recent last sale information). It would allow market forces, rather than regulatory requirements, to determine what, if any, additional quotations outside the NBBO are displayed to investors. Investors who need the BBOs of each SRO, as well as more comprehensive depth-of-book information, would be able to obtain such data from market or third party vendors.[7]

Under reproposed Rule 601, the Commission would rescind the current prohibition under Rule 11Aa3-1 on SROs and their members from disseminating trade reports independently. The Commission also would extend the "fair and reasonable" and "not unreasonably discriminatory" requirements currently applied to exclusive securities information processors under Section 11A(c)(1)(C) to reproposed Rule 603(a)(1). The Commission's proposal does not address, however, the problem of excessive fees for market data and the attendant distortions they introduce into the market, including the use of rebates of market-data revenue. The Commission notes that in 2002, it abrogated several SRO proposals for rebating data revenues to market participants. Consistent with its 2002 abrogation orders and the Commission's well-founded concerns about the distortions such rebates could introduce to the markets, we would have expected the Commission to advance rule proposals that would discourage, if not eliminate, such rebating. Instead, the Commission appears to believe that its proposed allocation formula provides a basis for approving rebates:

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7 See Release in text before n. 342.

> Given that the current Plan allocation formulas would be updated to allocate revenues for more beneficial quoting and trading behavior, the Commission anticipates that rebates would be permitted in the future if the reproposed formula were adopted, assuming their terms meet applicable Exchange Act standards and SROs are able to meet their regulatory responsibilities.[8]

In other words, market data fees would be justified as necessary for supporting SRO regulatory programs and would be available for market data rebates. This conclusion is indeed startling since the very existence of all these rebative schemes is virtually conclusive evidence that the fees are too high. The capacity to provide rebates from market data revenues demonstrates the rates are not necessary or appropriate to support legitimate self-regulatory activities, even if one accepts — and many do not — the Commission's assertion the costs of market regulation are a legitimate cost to be compensated by the data fees. Indeed, these bloated market data revenues, and the rebative practices they occasion, are sadly reminiscent of the distortions caused by the fixed minimum brokerage commission rates the Commission finally jettisoned some 30 years ago under pressure from the U.S. Department of Justice and the U.S. Congress.

The distortions occasioned by excessive market date fees take the form not only of rebates to market participants but also of cross subsidies to the SROs' other businesses. Also, the SROs would have an incentive to integrate downstream into the market for value-added data and financial information products. We believe SROs should be free to compete in that space; but they should compete on a level playing field and without the assistance of inflated market-data revenues that are, in effect, government-granted monopoly rents conferred upon SROs. The attached Bloomberg White Paper analyzes the anticompetitive issues raised by the government conferred monopolies the SROs have over market data and the steps we believe the Commission should take to ensure that there is genuine competition for providing market data beyond the NBBO.[9] The particular focus of the White Paper is the NYSE's OpenBook, but the analysis is applicable to the entire range of data products SROs may provide under the Commission's proposal. As is noted in the White Paper, "fees collected to support self-regulation could be used to subsidize the research and development of for-profit financial information products. Such cross-subsidization would provide another means by which the NYSE and Nasdaq would leverage government-conferred monopoly power into the market for financial information to the detriment of independent competitors and consumers."[10] At a

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8 See Release, n. 342.

9 Discussion Paper, "Competition, Transparency, and Equal Access to Financial Market Data," submitted by Bloomberg L.P. in consultation with Dr. George A. Hay, Edward Cornell Professor of Law and Professor of Economics, Cornell University and Dr. Erik Sirri, Associate Professor of Finance, Babson College (Sept. 24, 2002) (the "Bloomberg White Paper").

10 White Paper in text following n. 45.

minimum, all SROs and all market data vendors must have reasonable and nondiscriminatory access to raw market data and receive the data at the same time and on substantially the same terms.

The Commission states that it believes that "comprehensive trade and quotation information even beyond the NBBO, is vital to investors. It remains concerned that an SRO with a significant share of trading in NMS stocks could exercise market power in setting fees for its data. Few investors could afford to do without the best quotations and trades of such an SRO that is dominant in a significant number of stocks. In the absence of a solid basis to believe that full trade and quotation information would continue to be widely available and affordable to all types of investors under a hybrid model, the Commission has determined that the most responsible course of action is to take such immediate steps [as] are necessary to improve the operation of the current consolidation model."[11]

The Commission should focus primarily, we believe, on the fact that investors ultimately bear the costs of market data. Since the data reflect public investment activity, the data are a public good, not the private property of the market center on which the trading activity occurs. The exchanges have not demonstrated any responsible relation between market data costs — even if market regulation costs are thrown in — and the fees charged. The Commission should no longer tolerate this. The fees are too high, and the Commission has a statutory duty to address that issue.

We appreciate the opportunity to present our views on these important issues. If members of the Commission or the staff wish to discuss these matters with us, please let me know.

Respectfully submitted,

Kim Bang by R.D.B.

Attachment

cc(w/att.): The Hon. William H. Donaldson, Chairman

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11 Release in text after n. 296.

The Hon. Paul S. Atkins, Commissioner
The Hon. Cynthia A. Glassman, Commissioner
The Hon. Harvey J. Goldschmid, Commissioner
The Hon. Roel C. Campos, Commissioner
Annette L. Nazareth, Esq., Director,
Division of Market Regulation
Robert L. D. Colby, Esq., Deputy Director,
Division of Market Regulation
Elizabeth K. King, Esq., Associate Director,
Division of Market Regulation
Giovanni P. Prezioso, Esq., General Counsel
Chester S. Spatt, Chief Economist

Discussion Paper

COMPETITION, TRANSPARENCY, AND EQUAL ACCESS TO FINANCIAL MARKET DATA

Submitted by Bloomberg L.P.

In Consultation With:

Dr. George A. Hay, Edward Cornell Professor of Law and Professor of Economics, Cornell University

and

Dr. Erik R. Sirri, Associate Professor of Finance, Babson College

Willkie Farr & Gallagher
787 Seventh Avenue
New York, New York 10019
(212) 728-8000
Counsel to Bloomberg L.P.

September 24, 2002

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COMPETITION, TRANSPARENCY, AND EQUAL ACCESS TO FINANCIAL MARKET DATA[*]

Bloomberg L.P. ("Bloomberg")[**] submits this paper to address the importance of competition in the sale of financial information and the need for equal access to financial market data.

OVERVIEW

Competition in the sale of financial information is vital to the broad dissemination of trading data, the development of innovative analytics and indicators, and the transparency and efficiency of the financial markets. This paper demonstrates that exchanges,[12] and the NYSE and Nasdaq in particular, are abusing their government-conferred monopolies over the collection of trading data to restrict competition in the downstream market in which trading data and related products are sold to investors (the "market for financial information"). The NYSE and Nasdaq, for example, have used data relating to proposed or actual transactions on their respective trading facilities to create products (the NYSE Open Book and Nasdaq's Pre-Market and After-Hours Indicators) that they sell in the market for financial information under exclusionary conditions. Neither the products nor the data on which they are based are available to other market-data vendors (either from the exchanges or directly from those participating in the proposed or actual transactions) for use in competing products. Those exclusionary practices extend the exchanges' data monopolies downstream into the market for financial information.

The harm to market-data vendors, such as Bloomberg, that are unaffiliated with exchanges is obvious and severe, as such vendors cannot compete in any dimension -- price, quality, innovation -- if their access to necessary raw materials is barred or impeded. As a result, the exchanges' exclusionary conduct directly injures consumers, as the market-data vendors cannot introduce products that compete on either price or quality with the products sold by the

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[*] This paper was prepared with the assistance of, and in consultation with, Dr. George A. Hay and Dr. Erik R. Sirri, who endorse the analysis set forth herein. Dr. Hay is the Edward Cornell Professor of Law and Professor of Economics, Cornell University, and former Director of Economics of the Economic Policy Office of the Antitrust Division of the United States Department of Justice. Dr. Sirri is an Associate Professor of Finance, Babson College, and former Chief Economist of the United States Securities and Exchange Commission.

[**] Bloomberg is a worldwide, finance-oriented information and media company that provides data, news and analytics (the "BLOOMBERG PROFESSIONAL service") to investment firms and other professionals via more than 180,000 BLOOMBERG PROFESSIONAL terminals worldwide. Bloomberg is a Delaware (U.S.) limited partnership, headquartered in New York.

[12] The term "exchanges" as used herein refers to the New York Stock Exchange, Inc. (the "NYSE"), the American Stock Exchange ("Amex"), the six regional exchanges, and The Nasdaq Stock Market, Inc. ("Nasdaq").

exchanges. Higher prices, poorer quality, and less innovation, the hallmarks of harmful monopolistic behavior, will result. In particular:

- By refusing to provide the essential data on reasonable and nondiscriminatory terms, the exchanges eliminate any chance of effective price competition in the downstream market for the sale of financial information. As a result, consumers in the market for financial information will likely pay a price for the exchanges' products that is higher than the price that competition would dictate.

- By refusing to provide the essential data on reasonable and nondiscriminatory terms, the exchanges also eliminate any possibility for meaningful non-price competition, thereby hindering the introduction of alternative products and limiting consumer choice. The exchanges also avoid the need to improve the quality or design of their products, reduce the incentive for investment in the market for financial information, and deprive consumers of the substantial benefits that flow from competition in product innovation.

When exchanges prevent or impede market-data vendors from obtaining access to data relating to proposed or actual transactions on the exchanges' respective facilities, the exchanges thus harm both consumers and competitors and reduce the efficiency of the securities markets.

This paper does not take issue with the monopoly that the current regulatory scheme confers on exchanges over the collection of the raw trading data related to proposed and actual securities transactions conducted on their facilities.[13] Rather, it takes issue only with the abuse of that monopoly power when the exchanges favor downstream affiliates or prevent access by unaffiliated rivals to crucially important market data, thereby harming both price and non-price competition in the market for financial information.

To prevent the exchanges' abuse of their monopolies over the collection of trading data, we respectfully recommend that any exchange that wishes to compete in the downstream market for financial information be required to do so through a separate corporate entity, much as the SEC required in the Financial Systemware, Inc. ("FSI") exemption order (<u>see</u> Point V below). In addition, we argue that exchanges must distribute all data through a

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[13] The SEC has described its analysis of the financial structures of self-regulatory organizations ("SROs"), the cost of market information, and the relevant statutory standards governing market information and fees in Securities Exchange Act Release No. 42208 (December 9, 1999). While the question of pricing power and how best to address it is an important consideration in the regulation of monopolies, Bloomberg's views on that subject are not within the scope of this paper. As noted in the text, Bloomberg does not take issue in this paper with the exchanges' monopolies over the collection of market data or the manner in which the price of those data is regulated by the SEC. In this context, Bloomberg addresses only the exchanges' abuse of that power by wielding it against competitors and consumers alike in the market for financial information.

Securities Information Processor (SIP),[14] which already has a statutorily prescribed role in the distribution and consolidation of market data, that is subject to SEC oversight and is owned or administered independently of the exchanges. As such, the SIP would serve as a separate intermediary and firewall between the exchange and its downstream affiliate in the market for financial information.

BACKGROUND AND CONTEXT: THE EXCHANGES WILL INCREASINGLY ABUSE THEIR GOVERNMENT-CONFERRED DATA MONOPOLIES AND HARM COMPETITION AND EFFICIENCY.

To make informed and efficient trading decisions, market participants require full access to all relevant trading data, including, but not limited to, the national best bid and offer ("NBBO"), last-sale data, quote data, transaction data, and depth-of-market data possessed by all market centers. The market for financial information also includes value-added analytics and indicators that are based upon trading data as well as software that facilitates the production of tailored analytics and indicators. For competition to thrive, the raw trading data that constitute the core inputs to products in the market for financial information must be equally available to all market-data vendors.

As discussed more fully below, the current regulatory scheme confers monopoly control on the exchanges over the collection of the real-time trading data relating to securities transactions that are proposed or conducted on the exchanges' facilities. The exchanges, however, are now moving forward into the downstream market for financial information to sell trading data (and value-added products based upon such data) that are related to those proposed and actual transactions. The NYSE and Nasdaq in particular are doing so to the exclusion of other market-data vendors, such as Bloomberg L.P., that are unaffiliated with any exchange. The result: the NYSE and Nasdaq are able to restrict the output and raise the price of the financial information products they sell and will increasingly do so unless they are subjected to the type of constraints that are suggested below.

As exchanges move toward becoming private, for-profit entities, their opportunities to market trading data for their own advantages grow, and their incentive to distort competition and abuse their government-conferred data monopolies will only expand. Nasdaq has pending an application with the SEC for registration as a national securities exchange.[15] If Nasdaq's registration application is approved, Nasdaq will then complete its privatization process. As a for-profit exchange, Nasdaq will enjoy a private treasure trove of the raw materials that are necessary to the construction of data analytics, order-management systems, and other value-added functionalities, all of which are essential tools for market participants. Moreover, as an exchange, Nasdaq will obtain those raw materials from its members by force of law.

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14 15 U.S.C. § 78c(a)(22)(A).

15 Securities Exchange Act Release No. 44396 (June 7, 2001) (2001 SEC LEXIS 1097).

To prevent the exchanges from anticompetitively exploiting their monopolies over the collection of trading data, they must be required to make trading data available to all market-data vendors (including the exchanges and their affiliates) at the same time, at the same prices, and on equal terms. This paper suggests a two-part structural remedy to achieve those goals that:

(1) separates the exchanges from downstream affiliates that seek to market value-added financial data, and

(2) provides for independently owned or administered SIPs to consolidate and/or distribute all market data relating to proposed and actual transactions conducted on exchange facilities.

Today, the exclusive SIPs that consolidate and distribute trading data are themselves identical to or affiliated with the exchanges. If an exchange wishes to participate in the downstream market for financial information, Bloomberg believes that the exchange must be structurally and operationally separate from its downstream affiliate that participates in that market and be "independent" of the SIP that consolidates exchange data.

More specifically, the SIP either must be owned by an entity other than an exchange, or, if owned by an exchange in whole or in part, must be administered day-to-day by an entity that is entirely independent of the exchange. The exchanges would provide statutorily required trading data, as well as any other trading data they wish to sell or use themselves for value-added products, to the "independent" SIP, which in turn would consolidate and/or sell the data to all market-data vendors (including exchange affiliates) on reasonable and nondiscriminatory terms.[16] Absent such an approach, the monopoly power of the exchanges will continue to grow, damage competition in the sale of financial information, and damage our national market system.

<u>THE EXCHANGES HAVE GOVERNMENT-CONFERRED MONOPOLIES OVER THE COLLECTION OF TRADING DATA.</u>

The Transaction Reporting Rule, the Quote Rule, and the Vendor Display Rule

The Securities Acts Amendments of 1975 (the "1975 Amendments") directed the SEC to create a national market system for securities.[17] Section 11A of the Securities Exchange

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[16] We recognize that certain of the functions of the "independent" SIP that we discuss in Section III, for example, the negotiation of contracts for the sale of market data to market-data vendors, are not currently performed by the SIP itself, but rather by the Network or Plan administrators. In speaking in this paper about an "independent" SIP, however, we intend to propose a SIP that would have all the functions necessary to make market data obtained from the exchanges available to all market-data vendors on reasonable and nondiscriminatory terms.

[17] Pub. L. No. 94-29, 89 Stat. 97 (1975).

Act of 1934 (the "Exchange Act") sets forth the primary objectives of the 1975 Amendments, including the availability to brokers, dealers, and investors of information with respect to quotations for and transactions in securities. The SEC has promulgated rules in response to the Congress' direction to maintain fair and orderly markets and to facilitate the establishment of a national market system for securities. Most prominent are the so-called Transaction Reporting Rule,[18] the Quote Rule,[19] and the Vendor Display Rule.[20]

The Transaction Reporting Rule requires each SRO[21] to file with the SEC a transaction reporting plan for national market system securities traded in its market. The Quote Rule requires an SRO to establish procedures for making available its members' bids, offers, and quotation sizes to information vendors. The Transaction Reporting Rule and the Quote Rule effectively require all exchange members to report quote and transaction data to the exchanges. The Vendor Display Rule governs the distribution, publication, and display of last-sale and quotation data. In general, it requires vendors and broker-dealers that provide broker-dealers and investors with market information regarding a given security[22] to provide a consolidated display of information from all reporting market centers that permit trading in that security. Those rules interact to confer a monopoly on the collection of trading data on the exchanges.

The Quote Rule requires exchange members to promptly report to the applicable exchange or NASD, Inc. ("NASD") their best bids, best offers, and quotation sizes for exchange-traded and over-the-counter securities.[23] The Transaction Reporting Rule requires all members of exchanges to report their last-sale data exclusively through an approved Transaction Reporting Plan that is created and administered by the exchanges.[24] The Transaction Reporting Rule expressly prohibits members from disseminating transaction reports or last-sale data outside of

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18 Exchange Act Rule 11Aa3-1.

19 Exchange Act Rule 11Ac1-1.

20 Exchange Act Rule 11Ac1-2.

21 Section 3(a)(26) of the Exchange Act defines an SRO as any national securities exchange, registered securities association, registered clearing agency, or the Municipal Securities Rulemaking Board. 15 U.S.C. § 78c(a)(26). SROs promulgate their own rules, subject to Commission approval, that deal with member regulation, market regulation, and issuer listing standards.

22 Under the Display Rule, if a vendor or broker-dealer provides quote information for any stock that is traded on an exchange or Nasdaq, it must also provide either (a) the NBBO for the stock, or (b) a quotation montage for the stock from all reporting market centers. If a vendor or broker-dealer provides transaction reports or last-sale data for any exchange-traded security or Nasdaq stock, it must also provide the price and volume of the most recent transaction in that stock from any reporting market center, as well as an identification of that market center. See Exchange Act Rule 11Ac1-2(c)(2).

23 Exchange Act Rule 11Ac1-1(c)(1).

24 Exchange Act Rule 11Aa3-1(c).

an effective Transaction Reporting Plan.[25] Similarly, electronic communications networks ("ECNs")[26] are required to provide their trading data to an exchange for inclusion in the quotation data made available by the exchange to quotation vendors.[27] Exchanges thus have a monopoly on the collection of raw trading data, and independent data vendors cannot purchase those data directly from exchange members.

The Plans[28]

In accordance with this regulatory framework, the SROs have acted jointly under four national market system plans (the "Plans") in disseminating consolidated market information. The Plans govern the four "networks" of information developed by the SROs to disseminate market information for different categories of securities. Three of the networks govern securities listed on the NYSE, the Amex, the regional exchanges and Nasdaq, and the fourth governs exchange-listed options. Each Plan is governed by a committee comprised of a representative of each exchange that participates in the Plan. The three Plans that govern information regarding exchange-traded equities control the collection, consolidation, and distribution of quotation and transaction data for equity securities from all market centers. They also set the fees, subject to SEC oversight, that vendors and subscribers pay for the consolidated financial information.[29] Via the Plans, the SROs have complete monopoly power over consolidated financial information.

Two Plans, the Consolidated Tape Association Plan ("CTA Plan") and Consolidated Quotation Plan ("CQ Plan"), govern all exchange-listed securities (which do not include Nasdaq-listed securities). The participants in the two Plans are the NYSE, NASD, the Amex, Boston Stock Exchange ("BSE"), Chicago Board Options Exchange ("CBOE"), Chicago Stock Exchange ("CHX"), Cincinnati Stock Exchange ("CSE"), Pacific Exchange ("PCX") and Philadelphia Stock Exchange ("PHLX"). The two Plans jointly control two different networks.

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25 "No exchange or member thereof shall make available or disseminate, on a current or continuing basis, transaction reports or last sale data with respect to transactions in any reported security executed through the facilities of such exchange except pursuant to an effective transaction reporting plan filed by such exchange…." Exchange Act Rule 11Aa3-1(c)(2). This same rule applies to associations and their members as well. See Exchange Act Rule 11Aa3-1(c)(3).

26 ECNs are automated trading systems that widely disseminate market maker or specialist orders to third parties and permit such orders to be executed through the system. Exchange Act Rule 11Ac1-1(a)(8). Their reporting obligations are governed by Exchange Act Rule 301(b)(3)(ii).

27 Exchange Act Rule 301(b)(3)(ii).

28 The information about the Plans and the Networks they operate is derived from the Report of the Advisory Committee on Market Information, dated September 14, 2001, discussed infra in Section VI.

29 Exchange Act Rule 11Aa3-2(c)(3).

Market data for securities listed on the NYSE are disseminated via Network A, and information for securities listed on the Amex or the regional exchanges is distributed via Network B.

Network A consolidates all financial information relating to stocks listed on the NYSE, whether traded on the NYSE, a regional exchange, or an ECN. The NYSE is designated as the day-to-day administrator of Network A. As administrator, the NYSE is responsible for negotiating contracts with data vendors. In contract negotiations, vendors must disclose all proposed uses for the data and all uses must be approved by the NYSE. The NYSE thereby learns of any new, value-added product that a vendor intends to market while that product is still under development and while the related information is still confidential and competitively sensitive. The NYSE may even deny the vendor the right to use Network A data for a particular product.

A SIP must compile the NBBO and consolidate last-sale data available in accordance with the pertinent Plan.[30] The Securities Industry Automation Corporation ("SIAC") acts as the SIP for Network A. The transaction data collected by the CTA Plan and the quotation data collected by the CQ Plan on Network A are consolidated and processed by SIAC computers. SIAC is currently a joint venture that is two-thirds owned by the NYSE and one-third owned by the Amex. The NYSE (along with the Amex) thus has monopoly power over the collection of raw trading data and the consolidated trading data for trades made by NYSE members. Those monopolies are secured and enhanced by the NYSE's position as administrator of Network A, which allows the NYSE to learn of new products that its competitors are developing.

Network B consolidates market data on securities listed on the Amex or the regional exchanges, but not listed on the NYSE. The Amex, which is a subsidiary of NASD, acts as the administrator of Network B, and, as such, negotiates contracts, including those with market-data vendors. SIAC is the SIP for Network B. The regional exchanges are required to report their trading data to SIAC. So, for data regarding trades by Amex members, NASD -- as the parent of the Amex -- has a monopoly on the collection of the raw data, and the NYSE, together with NASD, as the ultimate owners of SIAC, share a monopoly on the consolidated data.

The third Plan for securities, in addition to the CTA Plan and the CQ Plan, is the Joint Self-Regulatory Organization Plan Governing the Collection, Consolidation and Dissemination of Quotation and Transaction Information for Nasdaq-Listed Securities Traded on Exchanges on an Unlisted Trading Privilege Basis ("Nasdaq/UTP Plan"). This Plan provides for the collection and consolidation of quotation and transaction information relating to securities traded on Nasdaq and on regional exchanges pursuant to Unlisted Trading Privileges under Section 12(f) of the Exchange Act. The participants in the Nasdaq/UTP Plan are NASD, the

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30 Exchange Act Rules 11Aa3-1 and 11Aa3-2.

Amex, BSE, CHX, CSE, PCX, and PHLX.[31] Nasdaq acts as both the administrator of the Plan and the SIP. As administrator, Nasdaq is responsible for day-to-day operations and for negotiating contracts with vendors. As the SIP for the Nasdaq/UTP Plan, Nasdaq collects and consolidates Nasdaq trading data, and controls dissemination of the data.

Preventing Abuse of Exclusive SIPs

We have reviewed the Transaction Reporting Rule, the Quote Rule, the Vendor Display Rule, and the Plans to demonstrate that they form a regulatory and operational framework that confers on exchanges monopolies over the collection of data related to potential and actual securities transactions on the exchanges' facilities. As noted above, we do not take issue here with those monopolies, the SEC's regulation of the monopolies in the exchange environment, or the manner in which the SEC oversees data prices as sold through SIPs pursuant to the Plans.[32] Rather, this paper takes issue only with the exchanges' abuse of their data monopolies when they favor downstream affiliates in the market for financial information or when they prevent access by unaffiliated rivals to crucially important market data. That abuse harms price and non-price competition (including competition with respect to innovation and design), the interests of consumers, and the efficient operation of the national market system.

The SEC recognized the potential for such abuse in Nasdaq's application for registration as an exchange and its plans to become a for-profit entity. The SEC required alterations to the Nasdaq/UTP Plan if Nasdaq intended to continue to operate as the SIP for that Plan. Those changes, although too limited to address the concerns raised by this paper, illustrate the need to prevent the competitive abuse of exchange-controlled SIPs.

With regard to the Nasdaq/UTP Plan's use of a SIP following the approval of the Nasdaq exchange registration, "a UTP Plan participant -- particularly Nasdaq -- should not operate as the SIP unless (i) the SIP is chosen on the basis of bona fide competitive bidding and the participant submits the successful bid, and (ii) any decision to award a contract to a UTP Plan participant, and any ensuing renewal of such contract, is made without that UTP Plan participant's direct or indirect voting participation."[33] Nasdaq, acknowledging the SEC's concerns, has announced its intention not to participate in the auction process to choose the new SIP for the Nasdaq/UTP Plan.[34]

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31 Under the Nasdaq/UTP Plan, Nasdaq collects quotation and last-sale information from competing exchanges (currently, the Chicago Stock Exchange and the Cincinnati Stock Exchange) and consolidates such information with its own. Nasdaq then sells this information for a tape fee.

32 See note 2 above.

33 See Amendment No. 2 to Form 10 filed by The Nasdaq Stock Market, Inc., as filed with the Securities and Exchange Commission on June 29, 2001, File No. 000-32651.

34 Form 10-K filed by The Nasdaq Stock Market, Inc. for the fiscal year ended on December 31, 2001.

Although the requirements outlined above illustrate the SEC's current concern with the power the exchanges exert over trading data via exchange-controlled SIPs, the SEC requirements, even if they were expanded to cover all Plans and Networks, do not adequately protect against competitive abuses. (<u>See</u> Sections V and VII below.) For example, Nasdaq's withdrawal as a candidate for the SIP for the Nasdaq/UTP Plan was entirely voluntary. Even under the SEC's requirements, Nasdaq could have continued to control both raw and consolidated Nasdaq trading data. In addition, the SEC would permit SIAC to win the bidding process to become the new SIP for the Nasdaq/UTP Plan. That would result in the NYSE, through SIAC, having not only monopolies over the consolidated data distributed under the CTA and CQ Plans, but also a significant influence over the consolidated data distributed under the Nasdaq/UTP Plan.

The monopoly power of the exchanges extends beyond the trading data governed by the Quote and Transaction Reporting Rules. All trading activity that occurs on an SRO is within the regulatory control of that SRO. As a practical matter, the infrastructure developed by each exchange to collect the trading data required by the Quote Rule, the Transaction Reporting Rule, and the Plans, as well as the regulatory authority that each SRO has over its members, provide the SRO with monopoly control over the collection of all trading data generated by members of, or participants on, the SRO in connection with proposed or actual transactions on the SRO.

The Congress, in enacting the 1975 Amendments, warned against possible abuses of market power by market centers such as the NYSE and Nasdaq that control or operate as a SIP:[35]

> The Committee believes that if economics and sound regulation dictate the establishment of an exclusive central processor for the composite tape or any other element of the national market system, *provision must be made to insure that this central processor is not under the control or domination of any particular market center. Any exclusive processor is, in effect, a public utility,* and thus it must function in a manner which is absolutely neutral with respect to all market centers, all market makers, and all private firms. Although the existence of a monopolistic processing facility does not necessarily raise antitrust problems, *serious antitrust questions would be posed if access to this facility and its services were not available on reasonable and nondiscriminatory terms to all in the*

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[35] The NYSE has invoked the privileges and immunities it enjoys as a quasi-governmental body. Indeed, in a recent case in which a floor broker sued the NYSE, the NYSE prevailed by claiming immunity from suit as a regulatory arm of the government. <u>See</u> <u>SEC v. The Street.com</u>, 273 F.3d 222, 225 (2d Cir. 2001) (stating that in earlier, related case, "the District Court concluded that the NYSE and its employees had absolute immunity from claims arising from their performance of regulatory activities.").

> *trade or if its charges were not reasonable*. Therefore, in order to foster efficient market development and operation and to provide a first line of defense against anti-competitive practices, Sections 11A(b) and (c)(1) would grant the SEC broad powers over any exclusive processor and impose on that agency a responsibility to assure the processor's neutrality and the reasonableness of its charges in practice as well as in concept.

(Emphasis added.)[36] In addition to that clear expression of congressional intent, the language of Section 11A itself seeks to avoid any limitation on the information available through a SIP that "imposes any burden on competition not necessary or appropriate in furtherance of the purposes of this title."[37] Notwithstanding congressional efforts to the contrary, the actual development of the Plans coupled with the centralized ownership and control of the SIPs permit the NYSE and Nasdaq to monopolize and exploit their collection of trading data in the very way that the designers of the national market system sought to avoid.

IN THE ABSENCE OF STRUCTURAL PROTECTION, THE NYSE AND NASDAQ WILL ABUSE THEIR MONOPOLY POWER OVER THE COLLECTION OF TRADING DATA AS THEY INTEGRATE FORWARD INTO THE MARKET FOR FINANCIAL INFORMATION.

As outlined above, Nasdaq and the NYSE have monopoly power over the collection of trading data. They also have the ability and the incentive to exploit that power -- and are now doing so -- by leveraging their monopoly power downstream into the market for financial information by excluding competition, restricting output, and raising price. A crucial component of the market for financial information includes value-added products whose construction typically requires raw data (*e.g.*, transaction prices and quotes) to produce derived information or analytics (*e.g.*, a graphic display of the average price over a period of time, plots of total market depth).

Nasdaq and the NYSE have the unique incentive and ability to construct value-added products from constituent raw data that are unavailable to competitors, including independent market-data vendors. We discuss one example for each of the NYSE (the Open Book Service) and Nasdaq (Pre-Market and After-Hours Indicators) that illustrates the exchanges' ability, incentive, and willingness to engage in such anticompetitive behavior.

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36 Securities Acts Amendments of 1975, Report of the Senate Comm. on Banking, Housing and Urban Affairs to Accompany S.249, S. Rep. No. 94-75, 94th Cong., 1st Sess. 11-12 (1975).

37 15 U.S.C. § 78k-1(b)(5)(B). The SEC has adopted rules that also seek to prevent the competitive abuse of a SIP. See, e.g., Exchange Act Rule 11Aa3-1(d).

NYSE's OpenBook

On October 19, 2001, the SEC published for comment rule changes filed by the NYSE in connection with its proposed OpenBook service.[38] OpenBook is a service whereby the NYSE makes available its specialists' limit-order books, a particularly important source of competitive information regarding market depth in a decimalized environment in which the NBBO exposes only the very top layer of quotes. The NYSE does not currently provide the crucially important constituent data -- the limit orders -- to any SIP for redissemination and, therefore, those data are not available, at any price, to independent market-data vendors. Only the formatted and packaged NYSE product, OpenBook, is available to any market participant that wants limit-order data.

Pursuant to the NYSE's proposed subscriber/vendor agreement (the "NYSE OpenBook Agreement"), the NYSE imposes two restrictions on the use of OpenBook.[39] First, the NYSE prohibited any recipient of the OpenBook data feed from redisseminating it (in contrast to displaying the data) in any form. That is, all recipients of the data feed could receive it from only one source -- the NYSE. The NYSE thus exerts monopoly control over the distribution and sale of all data in NYSE specialists' limit-order books and exploits that monopoly control to its financial benefit and to the financial detriment of potentially competing distributors such as Bloomberg.

Second, the NYSE requires recipients of the data feed, such as Bloomberg, that display OpenBook data for their subscribers to view to do so in a window format prescribed by the NYSE. Vendors and broker-dealers are prohibited from making any enhancements to the content or format of the OpenBook display or consolidating the OpenBook data with other market data, including better-priced orders available in other markets, to offer a more useful product for institutional and retail customers. The NYSE thus constrains the competitive latitude of other participants in the market for financial information to preserve its own exclusive control over OpenBook data at the expense of consumer choice. By contrast, institutional investors, market professionals, and broker-dealers that use the OpenBook data internally -- and not for display to others -- are allowed to alter it as they wished, including consolidating the display with other data and integrating the information into data analytics, trading models, and order-management systems.

On December 7, 2001, the SEC published an order approving the NYSE's proposed OpenBook fees.[40] The SEC qualified the order, however, by stating that it was "not approving or disapproving" the terms of the proposed NYSE vendor or subscriber agreements.

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38 Securities Exchange Act Release No. 44962 (October 19, 2001) (2001 SEC LEXIS 2217).

39 These restrictions can be found at http://www.nysedata.com.

40 Securities Exchange Act Release No. 44138 (December 7, 2001) (2001 SEC LEXIS 2563).

The order expressly added that "[t]he NYSE's proposed restrictions on vendor redissemination of OpenBook data including the prohibition on providing the full data feed and providing enhanced, integrated, or consolidated data found in these agreements are on their face discriminatory, and may raise fair access issues under the Act." Despite the SEC's admonition, the NYSE has yet to change its discriminatory NYSE OpenBook Agreement.

NYSE OpenBook provides a powerful example of the NYSE's monopoly power over the collection of trading data and a bald restraint on effective competition. By virtue of its status as an exchange and an SRO, the NYSE retains exclusive access to and control over the limit-order data that are the raw material of OpenBook. Competing market-data vendors and developers of market-data software do not have access to the limit-order data of the exchange except on the terms imposed by the exchange. In the case of OpenBook, data vendors can obtain OpenBook limit-order data only by entering into adhesion contracts with the NYSE that strictly control the distribution, enhancement, and even the display of the data.[41]

Nasdaq's 100 Pre-Market Indicator and Nasdaq 100 After-Hours Indicator

Like the NYSE, Nasdaq sells its own value-added products without providing the underlying data to its SIP for distribution to vendors. For example, Nasdaq developed the Nasdaq 100 Pre-Market Indicator and the Nasdaq 100 After-Hours Indicator in response to increased interest in pre- and after-hours trading. Both indicators provide dynamic data on extended hours trading activity, and according to Nasdaq's Web site, they "use unique editing logic to filter bad trades" and are calculated using other unique parameters, rendering them value-added products.

Whereas the NYSE sold OpenBook to data vendors but restricted its redissemination and display, Nasdaq engaged in even more restrictive conduct. In Bloomberg's experience, in the initial period following the introduction of the Indicators, not only were the underlying data on which the Indicators were based not available, but the Indicators themselves were also not available to data vendors. Nasdaq thus controlled both the type of data that were available and the timing of their availability. Nasdaq eventually made the Indicators available to data vendors, but the underlying data are still not offered for sale. Nasdaq's development, control, and exploitation of the Pre-Market and After Hours Indicators provide another illustration of the exchanges' abuse of their monopoly over the collection of trading data in restricting competition in the downstream market for financial information products.

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41 Consistent with its conduct in the market for financial information, the NYSE has publicly taken the position that the exchanges have intellectual property rights in market data. See NYSE Comments to SEC Release No. 42208, File No. S7-28-99, n. 5; Market Data Hearing at 124-25. Nasdaq has taken the same position. "New Approaches to Market Information," Submission to the SEC Advisory Committee on Market Information, February 19, 2001 at n. 13. Bloomberg disputes those positions but discussion of the details of that debate is beyond the scope of this paper.

NASDAQ'S FSI EXEMPTION AND THE NEED FOR A STRUCTURAL REMEDY TO THE EXCHANGES' MONOPOLY EXPLOITATION.

The NYSE's Open Book service and Nasdaq's Pre-Market and After-Hours Indicators illustrate the abuse of government-conferred monopoly power in the downstream market for financial information. In contrast, the SEC's response to Nasdaq's introduction of "Tools Plus" illustrates a means of anticipating and preventing the anticompetitive consequences of an exchange's abuse of its government-conferred monopoly in adjacent markets.

Nasdaq's FSI Exemption

On March 7, 2000, Nasdaq purchased Financial Systemware, Inc., a manufacturer of software products, and formed a wholly owned subsidiary that has been named Nasdaq Tools, Inc. ("Nasdaq Tools"). Nasdaq Tools has introduced "Tools Plus," an order-management system that uses Nasdaq data in the compilation of analytics that compete with those provided by independent market-data vendors. On April 24, 2000, the SEC granted Nasdaq and NASD a one-year, temporary, conditional exemption from various filing and rule-making procedures relating to Nasdaq's acquisition and operation of FSI, subject to a variety of conditions designed to preserve competition, and solicited public comment prior to considering a permanent exemption.[42] At the expiration of that temporary exemption, the SEC granted Nasdaq and NASD a permanent exemption from the same filing and rule-making procedures, subject to the continued imposition of conditions designed to preserve competition (the "FSI exemption").[43]

In granting the FSI exemption, the SEC recognized the danger of Nasdaq's leveraging its trading monopoly into a competitive adjacent market and imposed conditions to prevent that leveraging. In particular, the SEC conditioned the exemption on the presence of effective competition in the provision of order-management system services and software to market makers, and required that NASD encourage the development of software by NASD members and competing software vendors.[44] To maintain the opportunity for what it called fair competition, the SEC required NASD and Nasdaq to continue to provide open-architecture systems that enable full public access to NASD's facilities.[45] That access is to be provided through an API (Application Programming Interface) that enables firms to have access to the Nasdaq system through their own software or computer system.[46]

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[42] Securities Exchange Act Release No. 34-42713 (April 24, 2000) (2000 SEC LEXIS 807).

[43] Securities Exchange Act Release No. 44201 (April 18, 2001) (2001 SEC LEXIS 738).

[44] 2001 SEC LEXIS 738 at * 9, * 17, * 29, * 34.

[45] 2001 SEC LEXIS 738 at * 10, * 30, * 34.

[46] 2001 SEC LEXIS 738 at * 10, * 19, * 30, * 34.

The SEC also required that use of the software marketed by FSI not be, currently or in the future, necessary to access Nasdaq or any other NASD market-related facility and that full and fair public access to Nasdaq be available.[47] Thus, brokers and dealers that wish to access Nasdaq are not to be forced to purchase or use FSI products or services.[48] NASD and Nasdaq also agreed to treat FSI like any other third-party vendor with respect to the provision of information regarding planned or actual changes to Nasdaq.[49] Specifically, FSI would not be given any advance or private knowledge of such changes.[50] In addition, to enforce and emphasize the separation of Nasdaq and FSI, the SEC required that the two companies have separate and distinct office space and prohibited them from sharing employees.[51] The SEC also specifically noted that NASD and Nasdaq proposed that Nasdaq would operate FSI as a stand-alone business, capitalized separately and not subsidized by NASD members or other revenues of NASD or Nasdaq.[52]

The FSI exemption order stands for the proposition that, when an exchange competes in the market for financial information by selling trading data (or products based on those data) that can be obtained only from that exchange, the exchange must do so through an entity that is separate from the exchange. The separation must be implemented through an independent and separately capitalized corporate structure with strict firewalls providing for independent operation and an arm's-length relationship with the exchange. The affiliated but operationally independent and separately capitalized entity must gain access to data and information, including notice that the exchange will make new data available through the SIP to market-data vendors, at the same time, for the same price, and on the same terms as its competitors. The FSI case thus provides a useful model for structurally separating an exchange from a downstream affiliate to prevent the exchange from leveraging its government-conferred monopoly into competitive markets.

In the case of market-data administration, as described more fully below, the separate legal structure and operational independence of the exchange and its downstream affiliate must be supplemented by a SIP that would either be owned or administered independently of the exchanges. The "independent" SIP would receive data from the exchange, consolidate it with data from other exchanges where appropriate, and sell other unconsolidated, raw data (such as limit orders in specialists' books) if the exchange wished to use (through its

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47 2001 SEC LEXIS 738 at * 9 - * 10, * 16, * 30, * 33.

48 2001 SEC LEXIS 738 at * 9, * 16 - * 17, * 33.

49 2001 SEC LEXIS 738 at * 11, * 30, * 33 - * 34.

50 2001 SEC LEXIS 738 at * 11, * 33 - * 34.

51 2001 SEC LEXIS 738 at * 11, * 34.

52 2001 SEC LEXIS 738 at * 5.

downstream affiliate) such data in providing value-added products. The independent SIP would offer all such data on reasonable and nondiscriminatory terms to all participants in the market for financial information. Importantly, the independent SIP would eliminate the direct supply relationship between the exchange and its affiliate in the market for financial information that would otherwise render the structural and operational independence of the affiliate difficult, if not impossible, to police and enforce.

The Increasing Need for a Structural Solution

The need for the structural and operational independence between exchanges and downstream affiliates -- as well as an independent SIP -- will become more acute as the exchanges pursue for-profit initiatives. As noted above, Nasdaq is pursuing the completion of its plans to privatize. Through two private placements, on June 28, 2000 and January 18, 2001, NASD's holdings in Nasdaq were substantially reduced. On April 25, 2001, the Nasdaq Board agreed in principle to prepare for an initial public offering of its common stock.[53] Although NASD retains voting control of Nasdaq,[54] it will relinquish that control upon approval of Nasdaq's exchange registration. If Nasdaq becomes an exchange, it will be owned by and operated primarily for the benefit of its shareholders.

As the NYSE and Nasdaq continue to integrate forward into the market for financial information, they will increasingly have the incentive and the ability to favor -- and will in fact favor -- their affiliates competing in that market. As for-profit entities, their market-data affiliates will have a fiduciary obligation to their shareholders to maximize profits. And as monopolists, the NYSE and Nasdaq will have the requisite control over the collection of trading data to manipulate the main input for the market for financial information, harm competition, restrict output, and raise price.

The means at the disposal of the exchanges are numerous and varied.[55] For example:

- As with OpenBook, the exchanges will be able to provide trading data they have acquired in their regulatory capacities and market it as they wish. As the sole sources of those data, they can bargain with information vendors in a way that precludes the introduction of potentially competitive products.

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53 Amendment No. 2 to Form 10 filed by The Nasdaq Stock Market, Inc. as filed with the SEC on June 29, 2001 (File No. 000-32651).

54 Form 10-K filed by The Nasdaq Stock Market, Inc. for the fiscal year ended December 31, 2001.

55 Even if the exchanges do not employ, on every occasion, the means to harm competition that are at their disposal, their ability and incentive to do so may chill investment in the market for financial information.

- Under the current system, in which the exchanges control the SIPs, the exchanges can manipulate the format and content of trading data to suit their own proprietary information products and to disfavor rivals' competing information products.

- The NYSE and Nasdaq, as administrators of the Plans, can manipulate price and discount terms to favor affiliated companies and disfavor their competitors and can misuse competitively sensitive information that they obtain from rivals through the data-contracting process.

As they have in the past, the NYSE and Nasdaq will attempt to justify their anticompetitive conduct by citing the purported need to subsidize the cost of their self-regulatory responsibilities. We believe, however, that those responsibilities must be supported by SRO participants, not by monopoly rents extracted from the market for financial information to the detriment of independent competitors (such as Bloomberg) and consumers.[56] Furthermore, absent the structural separation outlined above (including separate financial accounting systems and capitalization) between the SRO and the affiliated entity competing in the market for financial information, fees collected to support self-regulation could be used to subsidize the research and development of for-profit financial information products. Such cross-subsidization would provide another means by which the NYSE and Nasdaq could leverage government-conferred monopoly power into the market for financial information to the detriment of independent competitors and consumers.

The NYSE and Nasdaq have other anticompetitive advantages as well. As Plan administrators, they have access to confidential information about the plans of competing market-data vendors. That information is highly sensitive from a competitive standpoint and, in some circumstances, may constitute trade secrets. The NYSE and Nasdaq can abuse their access to such information to the disadvantage of those vendors in the market for financial information.

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56 For the year ended December 31, 2001, market information services accounted for revenue of $250.5 million to Nasdaq, which represented approximately 28.1% of Nasdaq's total revenue. See Note, 1. Business "Overview" of Form 10-K filed by the Nasdaq Stock Market, Inc., as filed with the Securities and Exchange Commission on March 28, 2002. While Nasdaq and, similarly, the NYSE rely heavily on the monopoly revenues they derive from the sale of trading data, they have declined to disclose the costs associated with the consolidation, collection and dissemination of such data. Indeed, the NYSE has claimed in testimony before the House Financial Services Committee that it cannot accurately calculate the cost of consolidating and disseminating market information. See "Public Access to Market Data: Improving Transparency and Competition" Hearing Before the Subcommittee on Capital Markets, Insurance, and Government Sponsored Enterprises of the Committee on Financial Services of the U.S. House of Representatives, Serial No. 107-5, March 14, 2001 ("Market Data Hearing") at 19-20, 26. Without separately tracking such costs, the NYSE and Nasdaq may well obtain revenues from the sale of market data that far exceed the cost of consolidating and disseminating the data and that subsidize their other ventures, including increasingly NYSE and Nasdaq for-profit ventures.

When market-data vendors purchase trading data from the Networks, for example, they must enter into contracts that require them to disclose their actual and contemplated uses of the data and permit the exchange to veto such uses.[57] The NYSE and Nasdaq thereby have access to competing vendors' research and development and forward-looking competitive strategies. Such one-sided access to competitively sensitive information (indeed, in some cases, trade secrets) is not only inequitable, but also gives the NYSE and Nasdaq a competitive advantage that they can use to harm other market-data vendors, restrict output, and raise prices in the market for financial information. Independent ownership or administration of the SIPs (or independent administration of the Networks and Plans) should deprive the exchanges of those unfair competitive advantages.

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OpenBook, Nasdaq's 100 Pre-Market Indicators and 100 After-Hours Indicators, and Tools Plus illustrate the NYSE's and Nasdaq's intent and ability to integrate forward into the market for financial information. OpenBook demonstrates that -- in the absence of structural protections -- the NYSE will exploit its data monopoly to the detriment of downstream competitors and consumers alike. The Nasdaq Indicators do the same. The FSI exemption provides a template for the structural and operational separation between an exchange and its downstream affiliate that is required to prevent that exploitation. In the case of market-data administration, the SIP must be an independently owned or administered entity if it is to satisfy its legally mandated role of a public utility consolidating and distributing trading information on reasonable and nondiscriminatory terms to all market participants.

THE ADVISORY COMMITTEE REPORT ON MARKET-DATA ADMINISTRATION WOULD PROMOTE THE EXCHANGES' ABILITY TO EXPLOIT THEIR GOVERNMENT-CONFERRED MONOPOLIES.

The SEC has recognized that the interface between the exchanges and the market for financial information may require structural change. In December 1999, the SEC issued a concept release entitled, "Regulation of Market Information Fees and Revenues," that focused on the governance and financial structures of the SROs' market information plans (the "Concept Release").[58] The Concept Release proposed a cost-based approach to setting Plan fees for trading data. In doing so, the SEC confirmed that the comprehensive federal regulation of market information requires that any proprietary interests asserted by an SRO in the information

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57 Nasdaq' s standard-form contract with market data vendors can be found at http://www.nasdaqtrader.com/trader/mds/nasdaqagreements/vendoragreement.pdf. The NYSE's standard-form contract with market data vendors can be found at http://www.nyse.com/pdfs/RTIEV.pdf and can also be found at http://www.nysedata.com.

58 SEC Exchange Act Release No. 42208 (1999 SEC LEXIS 2611).

generated on an exchange be subordinated to the Exchange Act's objectives for a national market system.[59]

The Concept Release also acknowledged the competitive dangers implicated by an SRO's pursuit of for-profit objectives:

> The creation of for-profit SROs may require closer monitoring of the SROs' fee and financial structures, including their funding and use of resources.[60]

In the Concept Release, the SEC went on to request comment from the industry on a wide variety of subjects, including the cost-based approach, different methods of allocating Plan revenues from trading data, and increased public disclosure of fees and revenues.

The comments that were filed in response to the concept release expanded the debate and generated industry-wide discussion on a range of issues relating to market-data consolidation and dissemination. The debate led to the SEC's establishing an SEC Advisory Committee on Market Information (the "Advisory Committee") in August 2000. The Advisory Committee was given a broad mandate to explore and evaluate issues relating to the public availability of market information.

The Advisory Committee issued its final report on issues concerning market data on September 14, 2001 (the "Report").[61] The Report describes the status of market-data administration and provides an explanation of the continued value of transparency to the functioning of the securities markets.[62] The Report also recognizes the importance of disseminating market data as broadly as possible through a variety of distribution channels, which apparently prompted a majority of the Advisory Committee to adopt a new, so-called "Competing Consolidators" model.[63]

Although we do not address here in detail the merits of the multiple-consolidator model, we emphasize that the Advisory Committee failed to consider -- much less recommend ways of mitigating -- the anticompetitive impact of that model on the NYSE's and Nasdaq's forward integration into the market for financial information. In fact, the adoption of the

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59 1999 SEC LEXIS 2611 at * 15.

60 1999 SEC LEXIS 2611 at * 11.

61 Report of the Advisory Committee on Market Information: A Blueprint for Responsible Change.

62 Report at 68-70.

63 Report at 80.

multiple-consolidator model would enhance, not limit, the ability of the NYSE and Nasdaq to exploit their government-conferred monopolies.

The Report concedes that "some Advisory Committee members . . . believe that the multiple consolidators model could give both the primary and secondary markets power to seek monopoly rents for their data."[64] Yet the Report does nothing to address that competitive concern. Indeed, although the Report notes that "members pointed out that countervailing forces exist to keep market center pricing in check,"[65] it adds that "some members believe these countervailing forces may be less effective with for-profit SROs, which will have the paramount duty of maximizing shareholder value."[66] The Report devotes only two paragraphs to the evolution of for-profit exchanges and makes only a passing reference to the possibility that "profit motives and competitive pressures" could result in "unreasonable or inequitable fee structures."[67]

The Committee's recommendation, adopted at the instance of the NYSE and Nasdaq representatives, is seriously flawed because it fails to account for the existing monopolies of the NYSE and Nasdaq over the collection of data relating to proposed and actual transactions conducted on their respective facilities. The Committee's multiple-consolidator model contemplates that the exchange, the consolidator, and the market vendor may all be one and the same economic entity. The Report thereby sanctions the very structure that will effect the leveraging of monopoly power from the collection of the trading data directly into the market for financial information.[68]

The Report also places the SIP at the disposal of the data monopolist, thereby allowing the exchange to control the interface between the SRO and the competitive market for financial information. In the case of SIAC, the SIP controls an enormously complex and valuable infrastructure that reflects the contributions of public and private entities alike over the last quarter of a century.[69] In short, with essentially no explanation, the Advisory Committee

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64 Report at 86.

65 Report at 86.

66 Report at 86.

67 Report at 54-55.

68 The Report further assumes that each market center will withdraw from the current joint Plans and disseminate its own data, all the while ignoring the monopoly exploitation issue outlined above. Market center, as used here, includes ECNs. Report at 80.

69 The Committee Report also does not address whether SIAC and Nasdaq will remain available to other market centers for securities information processing. If the NYSE, the Amex, and Nasdaq foreclosed access to SIAC and Nasdaq by way of their respective ownership of those SIPs, other participants might face substantial barriers to entry in forming competing consolidators.

supported recommendations that would seriously exacerbate the anticompetitive forces that now exist in connection with the exchanges' use and sale of market data, instead of trying to grapple with them as the SEC did in considering the FSI exemption.

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In the transmittal letter accompanying the Report, Dean Joel Seligman, the Advisory Committee Chair, properly calls for further study of market structure issues. He observes that "it would be wise for a more comprehensive study of securities market structure issues to be initiated . . . [W]hat is important . . . is that there be an informed basis for SEC and Congressional decisions in the near future with respect to significant securities market structure issues."[70] Part of such a structural analysis should include an assessment of the data monopolies that the exchanges already enjoy and the impact that a multiple-consolidator model -- as apparently conceived by the Advisory Committee -- would have on free and fair competition in the market for financial information.

THE MONOPOLY POWER OF THE EXCHANGES CAN BE CONSTRAINED MOST EFFECTIVELY THROUGH A TWO-PART STRUCTURAL SEPARATION: THE FSI MODEL AND AN INDEPENDENT SIP.

As detailed above, increasing the number of SIPs would not by itself restrict sufficiently the data monopolies of the Nasdaq and the NYSE. Instead, two forms of structural protections working in tandem are required. First, as discussed in Part V, the exchange must be structurally and operationally separate from its downstream market-data vendor affiliate. The FSI exemption provides a useful model for that separation. Second, a neutral and independent SIP unaffiliated with an exchange or market-data vendor -- either by virtue of separate ownership or by virtue of an independent administrator of the Plan pursuant to which the SIP consolidates data -- should perform the legally mandated role of data consolidator and distributor.

The independent SIP would be entitled to obtain all of the raw market data that the exchanges are, by statute, required to provide. In addition, any trading data that the exchanges wish to sell, or use in value-added products that they (through their downstream affiliates) wish to sell, would have to be provided to the SIP. That is, if an exchange chooses to construct a derived or value-added product from as-yet "unpublished" data, it should be able to do so only upon giving all market-data vendors equal notice of the planned availability of such data and upon making the additional data available to all market-data vendors through a SIP on reasonable and nondiscriminatory terms. The SIP would consolidate such data where appropriate, and then, acting as a separate entity or an independent sales agent of the relevant exchange, sell those data to downstream market participants on reasonable and nondiscriminatory terms.

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70 Letter from Dean Joel Seligman to Chairman Harvey Pitt, dated Sept. 14, 2001 at p. 4.

Such an independent-SIP model will directly address the anticompetitive concerns outlined above through a simple and easily managed structure. As applied to OpenBook, for example, the NYSE would supply to the SIP the raw data from the specialists' limit-order books. The SIP would either consolidate the data into a single display or sell the data in raw form to downstream market participants -- all on equal terms. The downstream vendors may include an NYSE or Nasdaq affiliate, though one governed by the structural and operational protections outlined in the FSI exemption.

The NYSE affiliate could then package those data as OpenBook and sell it, while other market-data vendors could package the same data and sell them as they see fit. Of course, the NYSE could choose not to sell its limit-order data at all, but then it would not be permitted, through the NYSE itself or an affiliate, to sell a product derived from those data, such as OpenBook. The suggested approach would permit the NYSE to participate in the market for financial information, but prohibit the discriminatory use of the NYSE's limit-order information that the SEC has criticized in the context of OpenBook and the discriminatory use of other raw market data that the NYSE might utilize in other, similar products.

In addition, an independent SIP would contract with market-data vendors for the sale of consolidated data in lieu of the current practice in which the NYSE and Nasdaq execute contracts in their capacity as Network and Plan administrators. Contracting with an independent SIP would relieve independent market-data vendors of the supervision and intrusion by their SRO competitors that is a seriously damaging result of the SROs' current exercise of their Network and Plan administrator functions.

CONCLUSION

As exchanges increasingly move downstream into the market for financial information, restricting their data monopolies and preserving competition are more important than ever. Bloomberg believes those objectives are most effectively achieved through a two-part structural separation. First, the exchange and any downstream affiliate must be separated as illustrated by the FSI exemption. Second, an independent SIP (as described above) must stand between all SROs and all market-data vendors, providing reasonable and nondiscriminatory terms for access to raw market data at the interface of the two. Absent such a structural approach, the exchanges will remain positioned to exploit their data monopolies in downstream and adjacent markets to the detriment of consumers, independent competitors, and the national market system.