

September 15, 2000

VIA FEDERAL EXPRESS

Mr. Jonathan G. Katz
Secretary, Office of the Secretary
Mail Stop 0609
Securities and Exchange Commission
450 Fifth Street, NW
Washington, D.C. 20549

Re: Archipelago Comments In Response to File No. SR-NASD-99-53
(through Amendment 7)

Dear Mr. Katz:

This letter sets forth the comments of Archipelago, LLC (“Archipelago”) in response to a proposed rule change – SR-NASD-99-53 and Amendment Nos. 1 through 7 (“Proposal” or “Super Montage Proposal” or “Super Montage”) – filed with the Securities and Exchange Commission (“SEC” or “Commission”) by the National Association of Securities Dealers, Inc. (“NASD”) through its partially-owned subsidiary, The Nasdaq Stock Market, Inc. (“Nasdaq”).¹ Archipelago is an electronic communications network (“ECN”), which was one of the original four ECNs approved in January 1997 by the Commission. In July 2000, Archipelago and the Pacific Exchange (“PCX”) closed an agreement to create a fully electronic national stock exchange that will trade securities listed on Nasdaq, the New York Stock Exchange (“NYSE”), and the American Stock Exchange (“Amex”).²

As stated in its comments regarding the initial proposal,³ Archipelago believes greater depth of book enhances the efficiency of price-discovery and increases the

¹ SEC Release No. 34-43133 (August 15, 2000), 65 FR at 49842.

² The combined exchange is subject to SEC approval.

³ SEC Release No. 34-42166 (November 22, 1999), 64 FR at 68125.

likelihood of execution for limit orders. Accordingly, Archipelago submits the depth of book component of the Proposal directly benefits investors and should be approved without delay.

Unfortunately, there remain many aspects of Nasdaq's Proposal which are anti-competitive. These components will eliminate the ability and, therefore, incentive for execution centers to compete on a level playing field with Nasdaq. Specifically:

1. As the exclusive securities information processor ("SIP"), Nasdaq has exclusive access to all broker/dealer/competitor execution data. Nasdaq can use this information to learn about customers using competing systems. By contrast, no other ECN has access to such information.
2. Nasdaq uses Order Audit Trail System ("OATS")—in which all NASD members, as a matter of regulation, are compelled to participate—to analyze market behavior. Its ability to access and analyze such data places Nasdaq in a position where it can use such analysis for competitive purposes. Such data enable Nasdaq to identify order handling characteristics for all competitors. By contrast, ECN competitors do not have access to OATS information.
3. The Proposal eliminates the ability for technology innovators to bypass Nasdaq. Nasdaq refrains from displaying quotation information about individual market participants. Therefore, any systems competing with Nasdaq's order routing system, are left without information about where orders should be directed.
4. The Proposal would violate the principles set forth in the SEC's Order Handling Rules by hiding orders from the market.
5. "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 (emphasis supplied)." ⁴ As Congress recognized in 1975, a monopoly information and linkage provider would have severe conflicts of interest if also permitted to operate a competitive system.
6. "[T]he easiest way [for Nasdaq] to fight would be to use the collective regulatory weight and central operating position to fight the ECN's progress tooth and nail." ⁵ As the monopoly regulator that controls the

⁴ U.S. Code Cong. & Ad. News at 189. See also, S. Rep No. 94-75. 1st Session. 11-12 (1975).

⁵ Marks, Jim, "Reinventing NASDAQ: The World's Leading B2B eMarket Plots Competitive Response," *Electronic Commerce RE: Marks*, Sanford Bernstein, (January 11, 2000).

rules of its member competitors as well as the ability to bring enforcement/disciplinary action against such members, Nasdaq is in a position to pressure participants to use its system.

Nasdaq's entry into the execution business presents severe conflicts of interest with respect to NASD's ownership of Nasdaq, its ownership of NASDR, and Nasdaq's role as the SIP.

I. Competitive Data: Division is Crucial

Nasdaq intends to provide an anonymous display and execution facility identical to that which nine other ECNs provide today. Indeed, this Nasdaq ECN will directly compete with all other ECNs. Because Nasdaq is the SIP, all participants are required to report trades to Nasdaq's Automated Confirmation of Transactions ("ACT") facility. In addition, firms that do not use ACT to lock-in trades for clearing are still required to submit clearing information to ACT for purpose of ACT Risk Management.⁶ Nasdaq, through its ownership of ACT, has access to all trading data for its ECN competitors. For instance, Nasdaq can use such data to analyze which broker/dealers use which ECN and how ECNs are used. If broker/dealer ABCD places all of its limit orders in ECNA, Nasdaq possesses information that it could use to further its business by putting in a sales call to ABCD. By contrast, no other ECNs have data about customers that use a competing system.

Even more valuable as a competitive tool than ACT clearing data is data about orders submitted to ECNs. NASD's OATS was mandated in response to the Commission's 21(a) investigation and the consent decree of the Department of Justice and was "intended to fulfill one of the undertakings contained in the order issued by the SEC relating to the settlement of an enforcement action against the NASD for failure to adequately enforce its rules."⁷ OATS contains data about all orders submitted to all broker/dealers and how each broker/dealer handles customer orders. Such order data, if accessible to Nasdaq, would enable Nasdaq to study parameters such as execution speed, popular order types, proprietary routing algorithms, execution quality, etc. This data would not only be useful for sales and marketing efforts but also for strategic development.

As mentioned above, although OATS was developed for pure regulatory purposes, it appears that the NASD's use extends beyond NASDR. Specifically, on April 11, 2000, a presentation was distributed to attendees of the "Berkeley Program in Finance" conference. The presenter, representing "NASD and Nasdaq," examined characteristics of

⁶ Archipelago has been informed by Nasdaq market operations staff and NASDR that it is required to submit all clearing data to ACT for purposes of ACT risk management.

⁷ SEC approval order for SR-NASD-97-56.

the most active firms during the wild price swing on April 4, 2000.⁸ While the major drivers of price changes are quite interesting to many industry professionals, the information presented was derived from data not intended for such use: OATS. Clearly “regulation,” in this case, extends to include “research about how firms trade in Nasdaq.”

If Nasdaq is to compete, it is absolutely crucial to ensure Nasdaq competes on equal ground with every other trading system. Therefore, Nasdaq should be precluded from using its affiliation with NASD and its role as a SIP to unfairly compete for investor orders.

II. Attributable Quotes: Maximize Information Transparency

In its 1975 Exchange Act Amendments, Congress created the concept of a SIP, intending to carry out the objectives of—among others—information transparency and fair competition among markets. As designed, Super Montage will attribute only a firm’s top of book to its four-letter identifier (“MMID”); all additional size will be displayed as part of the Nasdaq aggregate. This presents a number of competitive advantages for Nasdaq and therefore is clearly not consistent with the guiding principles of a SIP.

1. Forces all Orders Through Nasdaq

Today, a market participant that wants to trade at multiple price levels can generate and send orders to all participants at once. In a decimal environment, in which displayed size at each price level will likely be reduced relative to today, the need to access orders at multiple price levels will increase. Unfortunately, Nasdaq’s display effectively requires that all orders be directed through Nasdaq; participants will not know the identity of the firm representing size below the best price. As a result, any systems competing with Nasdaq’s order routing system are left without information about where orders should be directed. Accordingly, such systems will be extremely difficult to operate.

If the Proposal is approved, U.S. equity markets will be dominated by a monopoly provider of order execution with a sometimes spotty record of system performance.⁹ Without the private linkages that ECNs share with one another and market makers, Nasdaq’s system would be overcome with still more transactional activity, likely resulting

⁸ Presentation included as Appendix A. Use of OATS data cited on page 5 of presentation.

⁹ See Letter dated December 16, 1999, from Gerald D. Putnam to the Annette Nazareth and Robert Colby regarding “Severe Ongoing Capacity Problems in Nasdaq Marketplace”; and, letter dated June 14, 1999, from Gerald D. Putnam to Jonathan G. Katz regarding SR-NASD-99-11. In addition, on January 6, 2000, Archipelago provided supporting documentation to Mark Denat, Nasdaq Product Development, and Gene Lopez, Nasdaq Trading and Market Services. This documentation clearly reflected no improvements in Nasdaq performance before and after Nasdaq’s BUMs release. Archipelago understands that other ECNs also provided Nasdaq with documentation of unsatisfactory and poor SelectNet performance at or about the same time period.

in additional capacity-related delays. Nasdaq's Proposal, if approved, will undermine the ECNs' competitive initiatives to bypass Nasdaq's sub-par network and Nasdaq will, in turn, become a dangerously large single point of failure.

2. False Perception of Liquidity on Nasdaq

Archipelago believes an MMID helps attract customer order flow because it enables investors to identify the liquidity center. Orders below a market participant's top of book, however, will be attributed to Nasdaq's MMID, not the firm representing the orders. As a result, liquidity will appear to reside in Nasdaq rather than the broker/dealer that represents the liquidity in Nasdaq. Accordingly, Nasdaq—incorrectly viewed as the liquidity center—will be able to leverage this misrepresentation to attract additional order flow to its system and will diminish and commoditize the brand equity that many market makers and ECNs have worked to establish. Thus Nasdaq will compete for orders—in part—on the basis of hiding information rather than exposing value.

III. Execution Algorithm: Strict Price-Time or Nothing

The Super Montage Proposal replaces Nasdaq's current primary linkage system—SelectNet—with a system called the Nasdaq National Market Execution System ("NNMS"). There are two primary differences between SelectNet and NNMS: (1) SelectNet is an order delivery system, whereas NNMS is an execution delivery system; and (2) SelectNet is primarily a directed order system, whereas NNMS is primarily a non-directed order system. Archipelago believes that in a decentralized market—i.e., one in which executions occur at multiple points instead of through one centralized switch—an execution delivery system presents costs that far outweigh any benefits vis-à-vis an order delivery system.¹⁰ Although is of the view that the Nasdaq market would lose valuable functionality with a move from an order delivery system to an execution delivery system, Archipelago does not believe such a move would be anti-competitive. Archipelago fervently believes, however, that the non-directed component of the NNMS presents several competitive conflicts, because orders are not treated with strict price-time priority. Specifically, the algorithm assigns priority to Nasdaq over other competitors and makes it impossible for participants to operate competitive linkages outside of Nasdaq. The execution algorithm takes a relatively even playing field in today's world and tilts it strictly in the favor of Nasdaq's order collection facility. This stands in direct contradiction to Nasdaq's role as a neutral SIP.

A. Execution Priority Disadvantages Competing Market Centers

As currently proposed, the non-directed execution algorithm will execute orders according to the following priorities:

¹⁰ See Archipelago's comments to File Nos. SR-NASD-99-11 and SR-NASD-98-17.

- 1) A market participant against its own quote. If order entering market participant is displaying an order on the opposite side of the market at the best price, the system will execute first against that participant's marketable order against its own displayed order, presuming the displayed order is at the best price.
- 2) Market makers, UTP agency interest, ECNs that do not charge access fees, and ECNs that provide net price-improvement.¹¹
- 3) ECNs that do not provide net price-improvement.
- 4) Reserve size of market makers, UTP agency interest, ECNs that do not charge access fees, and ECNs that provide net price-improvement.
- 5) Reserve size of ECNs that do not provide net price-improvement.
- 6) UTP non-agency interest.

As noted above, Nasdaq is the SIP. As such, Nasdaq must "function in a manner which is absolutely neutral with respect to all market centers, all market makers, and all private firms."¹²

The Proposal uses a loose definition of "price" to disadvantage Nasdaq's ECN competitors. Specifically, Nasdaq's algorithm considers an ECN's net price (i.e., the

¹¹ Amendment No. 7 considers an ECN's price, net of commission and price-improvement opportunities due to rounding. If the net price is inferior to a displayed price from a market maker, Nasdaq will execute the ECN's order after it executes the market maker orders, regardless of which was first received by Nasdaq. On the other hand, if the net price exceeds the displayed price from a market maker, Nasdaq executes the ECN and market maker orders according to time priority; Nasdaq does not execute the ECN order first, even though, according to Nasdaq's thinking, the ECN price is superior.

Example 1: Market maker ABCD displays an order to buy at \$10 in Nasdaq. Some period of time later, ECNA—charges a non-subscriber access fee ("Access Fee") \$0.003 per share—receives a customer buy order for \$10.00. (Archipelago assumes a minimum quotation increment of \$0.01.) ECNA's net price is \$10.00-\$0.003=\$9.997 per share. ECNA communicates the buy order to Nasdaq at the gross price (\$10) but indicates that the net price (\$9.997) is, according to Nasdaq, inferior to (less than) the rounded price. Subsequent to ECNA's displayed bid, market maker WXYZ displays an order to buy at \$10. Upon receiving a market sell order, execution priority would first go to ABCD, then to WXYZ, and last to ECNA, because ECNA's net price would be inferior to all other \$10 bids.

Example 2: Same as Example 1, except ECNA receives a customer buy order for \$10.005 and thus its net price (\$10.002) is, according to Nasdaq, superior to (greater than) \$10. Upon receiving a market sell order, Nasdaq would first execute against ABCD because it was the first to display \$10 in the market, despite the fact that, according to Nasdaq, ECNA provides a superior price. Nasdaq would then execute against ECNA and then against WXYZ.

¹² U.S. Code Cong. & Ad. News at 189. *See also*, S. Rep No. 94-75. 1st Session. 11-12 (1975). Archipelago highlighted this mandate in its original comments regarding Super Montage and Nasdaq has to date refused to address this concern.

customer's unrounded price inclusive of the ECN's non-subscriber access fee) when the gross price is equivalent and the net price is inferior to other orders displayed in Nasdaq, but it considers an ECN's gross price when the gross price is equivalent to and the net price is superior to all other existing orders in the market. Nasdaq assigns execution priority based on an inconsistent definition of price. Further, it appears that, given Nasdaq's explicit intent to compete with ECNs, Nasdaq assigns execution priority to disadvantage its ECN competitors. Certainly this would be counter to the mandate of a SIP.

In addition, Archipelago submits that Nasdaq's treatment of UTP non-agency interest is also inconsistent with its role as the SIP and will stifle competition from competing exchanges. Nasdaq's algorithm is designed to discourage broker/dealers from reflecting liquidity in a market that competes with Nasdaq. Indeed, a broker/dealer order placed directly in Nasdaq would enjoy execution priority ahead of all other NMS participants, while that same order placed on a competing exchange would be forced to accept last priority at any given "price."¹³ As Chairman Levitt stated at Northwestern University, "[a]ny linkage must accommodate innovation and the imperative to compete on the basis of value."¹⁴ Nasdaq's Proposal attempts to compete on a dimension other than value: Nasdaq's monopolistic control of the NMS linkage system.¹⁵

The Proposal's execution algorithm is an actual demonstration of the high-level concerns raised by Archipelago in its initial comments regarding this Proposal. Specifically, Nasdaq—as the monopoly rule-maker and SIP—has the authority and the incentive to create rules that harm its competitors. Nasdaq's Proposal uses a loose definition of price to disadvantage orders represented by ECNs and discourages orders from being represented on competing exchanges.

B. Directed Orders Foster Competition and Eliminate Potential Manipulation of Rules

Archipelago suggests that another option to strict price-time is to leave execution priority in the safe hands of competition and replace the execution algorithm with a purely directed system, similar to SelectNet today. A directed system introduces

¹³ UTP orders are often executed after other orders at inferior prices, due to Nasdaq's occasional use of net pricing as described above.

¹⁴ "Visible Prices, Accessible Markets, Order Interaction", Chairman Arthur Levitt, Northwestern University School of Law, Kellogg Graduate School of Management, March 16, 2000.

¹⁵ Archipelago notes Nasdaq's execution algorithm would not be a problem if Nasdaq controlled only a small fraction of executions. Under this scenario, NMS executions would not be included in Nasdaq's most-preferenced list, and therefore most executions would execute according to true price-time priority. Because Nasdaq controls 98% of all executions, however, orders represented by a competing market center sit behind 98% of all trading interest.

competitive benefits and eliminates many of the problems associated with a non-directed system operated by a competitor.

The competitive benefits of price-time priority will be realized more through a competitive directed system than the Proposal's non-directed system. Specifically, the Proposal's non-directed system will not give price-priority to participants that quote in finer increments—and therefore provide superior prices—than Nasdaq. Accordingly, an order entering firm will receive price-improvement by luck, rather than design, and the incentive to compete on price is limited to Nasdaq's minimum displayed increment. A directed order system will enable order entering firms to route to participants that routinely provide price-improvement due to rounding. Thus competition will ensure the best priced orders in the market are executed first, and therefore encourage price-competition beyond the constraints of Nasdaq.

Because competition, rather than Nasdaq, would control order destination, Nasdaq would not have the ability to unfairly tweak an algorithm to harm its competitors. A directed order system would enable market centers to compete on the basis of value, and it would, therefore, promote a more efficient overall marketplace.

IV. Holding Orders: Everything Out in the Open

The Proposal outlines an algorithm for handling marketable limit orders submitted to the Order Collector Facility. Specifically, if a marketable order, submitted by a broker/dealer that is not a market maker or ECN, becomes unmarketable before it is fully executed, Nasdaq would hold onto the order for 90 seconds to enable the order to retain time priority, should it become marketable again.

Archipelago believes that Nasdaq would violate SEC Rule 11Ac1-1 if it conceals non-marketable limit orders. In particular, Rule 11Ac1-1(b)(1)(i) states that:

Each exchange shall at all times such exchange is open for trading, collect, process and make available to quotation vendors the best bid, the best offer, and aggregate quotation sizes for each subject security listed or admitted to unlisted trading privileges which is communicated on any exchange by any responsible broker or dealer...¹⁶

In addition, the SEC's Order Handling Rules require, in part, that market makers either display or route customer limit orders within 30 seconds. The Order Handling Rules have provided substantial and well-documented improvements to Nasdaq market

¹⁶ On several occasions, Nasdaq staff have publicly indicated that Nasdaq is actively pursuing its Form 1 exchange application, and expects to be approved as an exchange in the near future. Accordingly Archipelago believes Nasdaq will operate as an exchange, rather than a registered securities association, before the Proposal will be implemented.

quality.¹⁷ This component of the Proposal will not fulfill the ideals of the Order Handling Rules and will impair the price discovery process.

V. Absolving Liability: Negligence Without Penalty?

Proposed NASD Rule 4705(g) relieves Nasdaq of all liability “for any losses, damages, or other claims arising out of the NMS or its use.”¹⁸ Archipelago recognizes that Nasdaq is in the business of processing billions of dollars worth of trades every day. Should an outage occur and liability for losses fall on Nasdaq, Nasdaq would be out of business after its first outage. Thus, Nasdaq should be able to step out of liability under extreme circumstances.

Archipelago is concerned, however, that if Nasdaq incurs no liability for outages, it will have no incentive to prevent outages. Indeed, history indicates that outages are not infrequent and, even worse, Nasdaq is often reckless in the manner in which it handles such problems. Archipelago incurred hundreds of thousands of dollars worth of losses due to Nasdaq’s SelectNet outage on April 4, 2000 and its subsequent handling of trade reports and executions.¹⁹

Nasdaq has not demonstrated the ability or willingness to accurately represent information about its system efficacy.²⁰ Archipelago strongly believes that if all Nasdaq users are going to be held liable for Nasdaq’s technological stability, there must be a more rigid oversight of Nasdaq’s system performance. Without this oversight, firms will have no protection against outages, and thus, the cost of operating an order execution system in Nasdaq securities could easily outweigh any financial incentives to compete.

VI. Conclusion

The Nasdaq-sponsored limit order book and Order Collector Facility is a heavy-handed, top/down, anachronistic response to concerns that the market is already addressing. On a purely customer-driven basis, the private sector has already begun to display greater trading interest. For instance, Archipelago’s display not only includes

¹⁷ Barclay, Michael J., William G. Christie, Jeffrey H. Harris, Eugene Kandel, and Paul H. Schultz (1997), “The Effect of Nasdaq Market Reform on Trading Costs,” *Journal of Finance*, Volume 54 Number 1, February 1999; “Visible Prices, Accessible Markets, Order Interaction,” Chairman Arthur Levitt, Northwestern University School of Law, Kellogg Graduate School of Management, March 16, 2000.

¹⁸ 65 FR at 49845.

¹⁹ Archipelago provides detail about this event under separate cover and Freedom of Information Act protection.

²⁰ See letter from Gerald D. Putnam, Chief Executive Officer, Archipelago, LLC, to Richard Ketchum, President, NASD (June 8, 2000).

information about all orders controlled by Archipelago, but it also includes information about all orders residing on other ECNs, like the Island ECN and RediBook ECN. Further, it is Archipelago's understanding that other ECNs and even non-traditional financial entities, such as Yahoo! And Silicon Investor, are independently pursuing similar strategies. In addition, virtually every major market participant operates some form of high-speed linkage with other frequently-accessed broker/dealers. Indeed, Nasdaq currently touches only 25% of all executions in Nasdaq securities.²¹ Technology is evolving such that there is little economy of scale to operating a network that provides information and linkage. Accordingly, the need for a centralized monopoly network is diminishing. At a time when technological innovation is recognizing the benefits of decentralized networks, why is the securities market proposing to take a step backwards towards centralization?

Further, the Proposal not only slows the market to utility speed, but it also introduces severe conflicts of interest due to Nasdaq's association with NASD/R and Nasdaq's role as the SIP. The Order Collector Facility and Nasdaq-sponsored ECN fundamentally change Nasdaq's role in the marketplace from a neutral collector of information and a substandard provider of order routing services to a combined information provider and full-fledged competitor for order execution. Archipelago submits that Nasdaq's Super Montage Proposal creates a National Market System that is not based on fair competition and is counter to the principles embraced by the Chairman and by Congress in the 1975 Exchange Act Amendments. For this reason, Archipelago fervently believes that fundamental changes must be made to the Proposal and to the internal NASD structure before Super Montage can lawfully be approved.

Based on the foregoing facts and arguments, Archipelago believes that the Proposal – **SR-NASD-99-53** – clearly violates the principles set forth in the Exchange Act and strongly urges the Commission to reject the Proposal.

Respectfully submitted,

ARCHIPELAGO, L.L.C.



Gerald D. Putnam
Chief Executive Officer

²¹ See <http://www.marketdata.nasdaq.com/mr6d.html#SOES>, SelecNet and ECN Share of Volume

Mr. Jonathan G. Katz
File No. SR-NASD-99-53
September 15, 2000
Page 11

Cc: Securities and Exchange Commission –

The Honorable Arthur Levitt, Chairman
The Honorable Isaac Hunt, Jr., Commissioner
The Honorable Paul Carey, Commissioner
The Honorable Laura Simone Unger, Commissioner

Ms. Annette Nazareth
Director of Market Regulation

Mr. Robert Colby
Deputy Director of Market Regulation

Ms. Belinda Blaine
Associate Director of Market Regulation

Ms. Elizabeth King
Associate Director of Market Regulation

Mr. Joseph Lombard
Senior Counsel, Office of Chairman Levitt

Mr. Richard Ketchum
President, Nasdaq, Inc.

Mr. Dean Furbush
Senior Vice President, Nasdaq, Inc.

Mr. Robert Aber
Senior Vice President and General Counsel, Nasdaq, Inc.

Mr. Alden Adkins
Senior Vice President and General Counsel, NASD Regulation, Inc.

Berkeley
Program in Finance
April 11, 2000

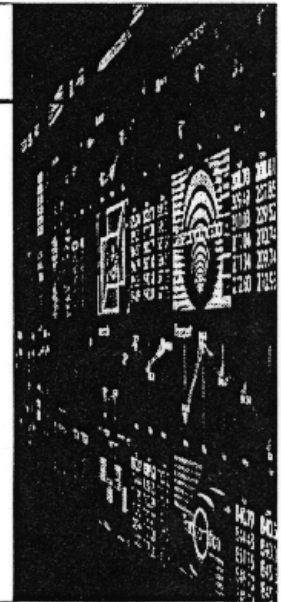


Mike Edleson

Chief Economist, NASD & Nasdaq

Issues and Developments at Nasdaq

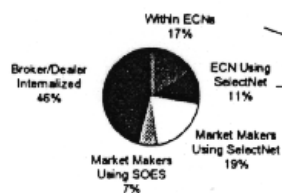
- ECNs in Nasdaq
- April 4th, Market Madness
- Innovation, Technology & Competition (or, Fragmentation?)
- The Selling of Nasdaq
- Other/Questions



ECNs are an Important component of The Nasdaq Stock Market

- ECNs represent (Jan '00):
 - 24.6 % of trades
 - 26.2 % of dollar volume
 - 19.6 % of share volume
- Had been as high as 29/29/22%
- At peak ECN market share:
 - SelectNet usage up 157% from year earlier! - ECNs driving much of that (*Compare to SOES up 80%*)
 - Of "stable" orders on a sample day: 28% thru ECNs, including 60% of inside-setting orders, 66% of inside-matching orders

Where Nasdaq Trades Happen (By Liquidity Supplier)



Fall 1999

Trade Breakout of ECN Subscribers

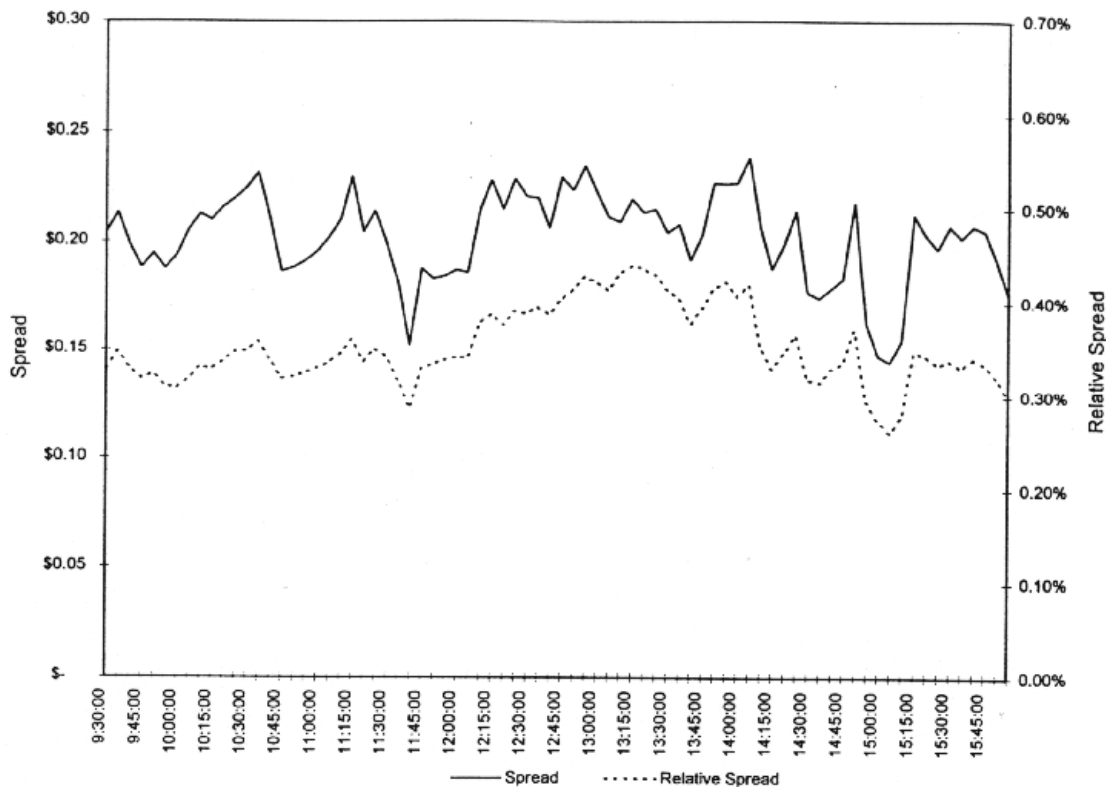


Market Action on April 4th

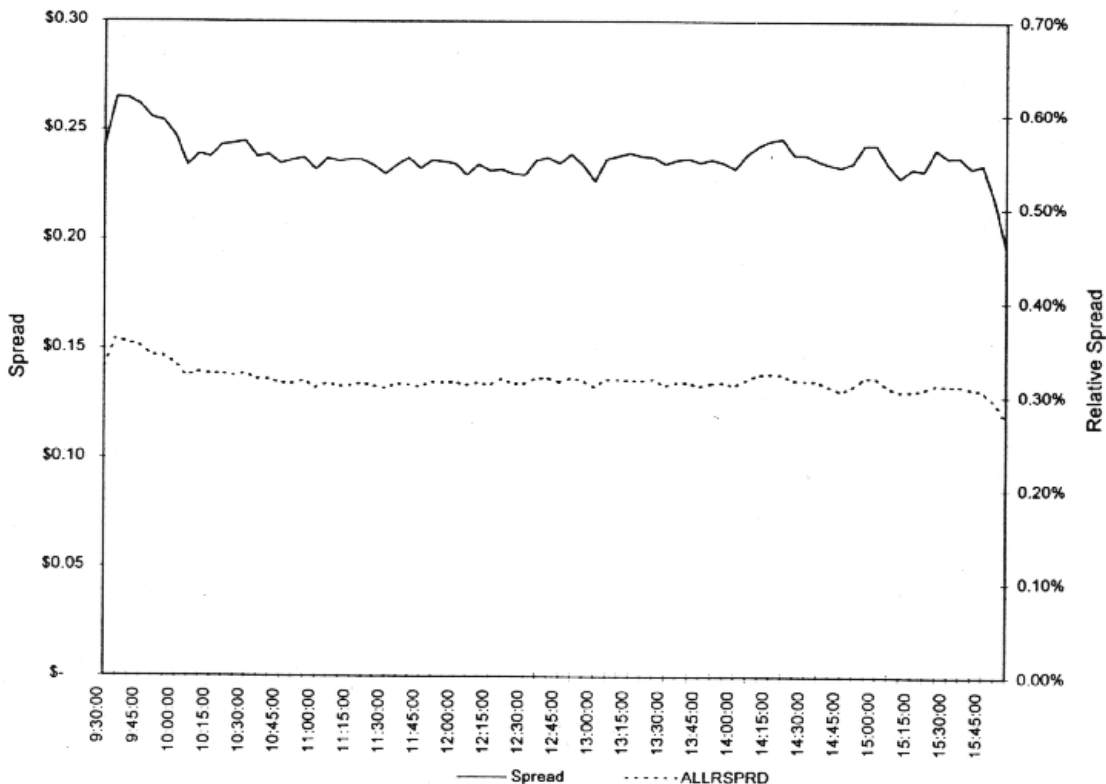


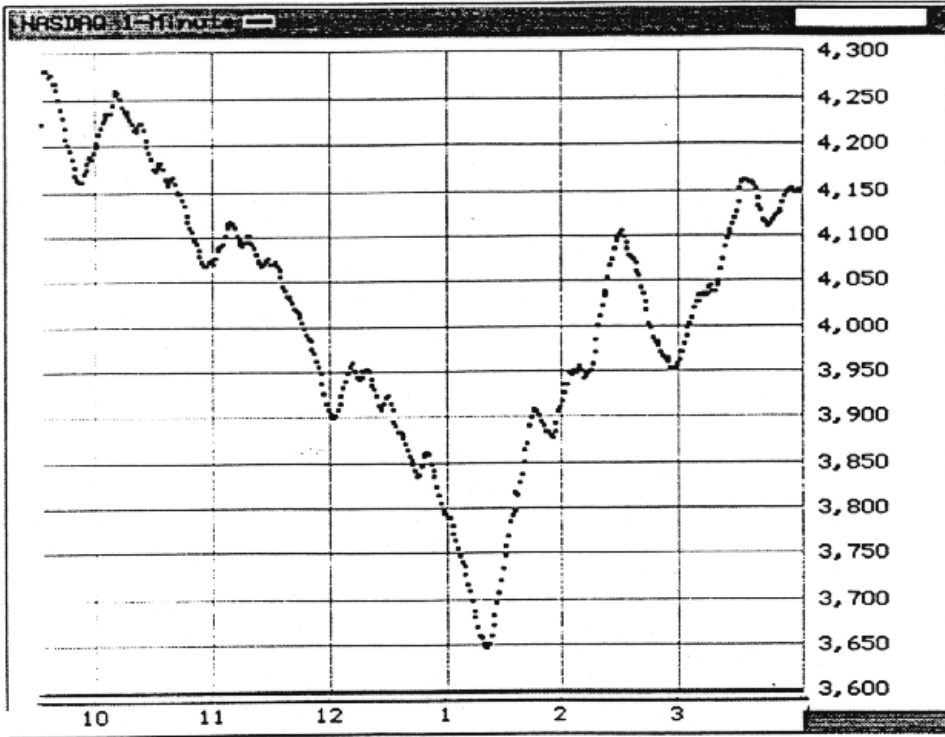
- 2.8+ Billion shares traded, over 4 MM trades
- 13¹/₂% down, then 13¹/₂% up (11¹/₂% based on open)
- Actual dollar spreads lower than base week, BUT
 - Prices lower now, so relative spread similar
 - More locks & crosses (over 1/2%, usually under 1/10%)
- Relative spread close to but higher than base week (due to high relative spreads based on low prices from 12 to 2 pm)
- ECN share of QUs increased during volatile periods
- Trade & share volume peaked mid-day (unusual)
- Interesting to look at Order Data across the day...

Average Intra-day Spreads on April 4th, 2000
 Duration weighted in 5 min buckets, weighted by dollar volume across stocks

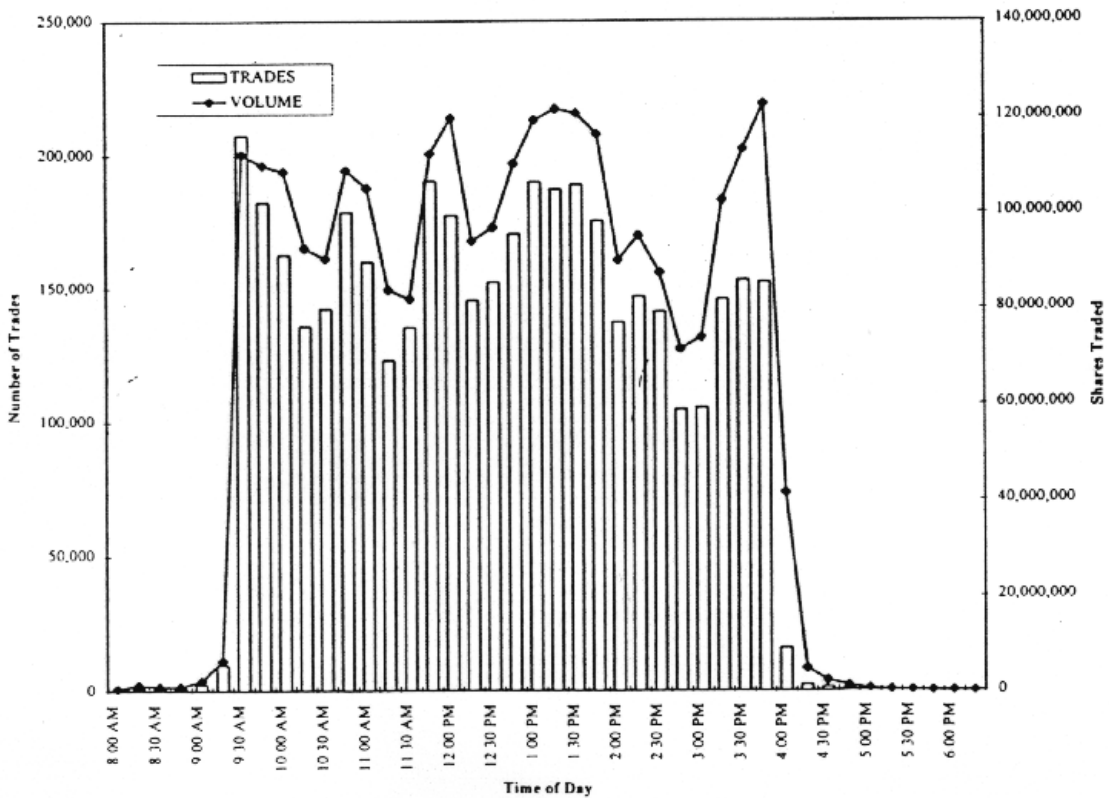


Average Intra-day Spreads for January 31 - February 4, 2000
 Duration weighted in 5 min buckets, weighted by dollar volume across stocks





Trading Activity on 4/4/2000



Looking at Orders on April 4th

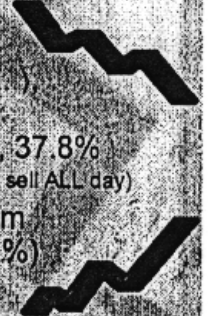


- Using OATS data, very sketchy & preliminary
- 3.3 B shares of customer orders placed
- Net sell imbalance, not huge (-78M or -2.4%)
- Heavy selling pressure from:
 - Crossing systems
 - Institutional broker's ordersLight selling pressure from DiscBrk, ECN
- Mild buying from:
 - Wholesaler customers
 - Day traders
 - Wire houses
 - Other

*Very interesting
broken down
by half-hour...*

A Closer Look at April 4th

- Over 50% of Day Trader selling was Short (compare that to 5% of "retail" selling)
- During the last 4 free-fall periods (1030, 1130, 1230, 1300) day-trader Short Selling was over 60%
- During the first 3 free-fall periods (0930, ...), InstBr selling % was very heavy. Buy proportions were: 38.5%, 34.2%, 37.8%. Crossing systems were even lower (& were net sell ALL day)
- The "turn" (1300 - 1330) came mostly from ECNs (58%), DayTrd (53%), InstBr (51%)
- "Retail" missed the turn. Disc (33%), Whole (38%), Reg (38%), Wire (43%)



Innovation, Technology & Competition

(or, Fragmentation?)

- SEC Concept Release
- Open Architecture Market Structure
- The role of Linkage
- Are limit orders getting filled?



Recapitalization (The Selling of Nasdaq)

- Why?
- How?
- How Much?
- When? (next week!)

Selling up to 49%
in Phase 1,
then a total of 78%
by Phase 2

After Completion of Private Placement
(Phase 2)

75% Voting Control
(22% After Exch Reg)

