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Jonathan G. Katz
Secretary
Securities and Exchange Commission
450 Fifth Street, NW
Washington, DC 20549-0609

Re: Regulation NMS - File No. S7-10-04

Dear Mr. Katz:

I appreciate the opportunity to comment on proposed Regulation NMS. As you know, I served on the Commission staff while much about the proposed regulation was being debated. During that time, I was very impressed by the knowledge, experience, hard work, care, and good faith that the members and staff of the Commission brought to concerns about market structure. Regulation NMS is based on strong principles grounded in practical experience and extensive empirical evidence.

My comments address all four main components of the proposed regulation. Before addressing these components, I briefly discuss why limit orders and trader quotes have option values. Understanding the implications of their option values is the key to understanding the benefits of the proposed regulation.

Among the four main parts of Regulation NMS, the market data component has the greatest potential to improve the quality of US equity markets by making them more competitive. I explain why the proposed rule will promote both the competition among traders for best price and the competition among exchanges.

The proposed trade through rule has generated the most controversy. I explain why many commentators mistakenly believe that the rule is anticompetitive. The proposed rule would promote exchange competition by replacing the ITS trade through rule with a new trade through rule. The benefit to competition primarily comes from the repeal of the ITS trade through rule. The new trade through rule promotes investor protection and will not degrade competition among exchanges as many commentators have suggested.

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Introduction: Order Option Values

The key to understanding many benefits of Regulation NMS lies in the recognition that standing limit orders and quotes are free options that traders give to the market. A sell limit order is a call option in the sense that it allows the first trader who wants to buy at the limit price the option to do so. A buy limit order is a put option. This introductory section explains why regulators must be aware of the order option values when considering how markets should best be structured.

The options associated with limit orders differ in three important respects from those that are traded as contracts like those cleared by the OCC. First, only the holder can exercise an options contract. In contrast, any trader can exercise the option associated with a standing limit order. Second, the owner of an (American) option contract can exercise the option any time before the contract expires. In contrast, the option associated with a standing limit order ceases to exist when the order expires, when some trader exercises it, or when the limit order trader cancels it. Finally, and most importantly, option contract writers are paid for the options that they sell whereas limit order traders are not paid for the options that they provide to the market.

Although the option associated with a standing limit order differs in some respects from the option associated with an options contract, the two are similar in a most important respect: They both are valuable. Like an options contract, the value of the standing limit order option increases with the volatility of the underlying instrument, how aggressively priced the limit order is, and the expected time that the order will remain alive. The expected life of a standing limit order depends on many factors, the two most important of which are how quickly market order traders will fill the limit order when its option value becomes large, and how quickly the limit order trader will cancel his or her order when it becomes too valuable. In general, the value of the option associated with a standing limit order is greatest when limit order traders cannot cancel their orders in response to changing market conditions as quickly as proprietary traders can fill them. The option value of a standing limit order is also small when many traders will compete to fill the order the moment its option value becomes sufficiently large. Finally, the option value of an order increases with its size.

The pennying strategy may provide the clearest evidence that limit orders have option values. Clever traders use this strategy—which is also known as the quote-matching strategy—to extract option values from standing limit orders.

The following example illustrates how this well known strategy works. Suppose that a limit order trader has placed a limit order to buy at 20. Upon seeing this order, a fast trader—the quote-matcher—places a limit order to buy at 20.01. If an incoming sell order arrives, the fast trader will buy at 20.01 and the limit order trader may not execute. If values subsequently rise, the fast trader may profit to the full extent of the rise. However, if values fall, the fast trader will sell to the limit buy order at 20 for a loss of just one cent. The fast trader thus can obtain an asymmetric return distribution in which his potential gains are unbounded, but the potential losses will likely be no more than one cent. This return distribution is similar to that of an option because it reflects the option value of the standing limit order. The pennying strategy hurts the

limit order trader: If he fails to trade, he will wish that he had, and if he does trade, he will wish that he had not.

Traders are not fully compensated for offering free trading options to the market. Although they generally offer limit orders with the hope of obtaining better prices should their orders execute (than they would have obtained had they used market orders), their limit orders often do not execute. This is especially so when fast traders use pennying strategies against limit order traders. The profits that they obtain come at the immediate expense of the limit order traders. Since the limit order traders will act to reduce the option values of their orders when traders try to extract them, the strategy also ultimately hurts market order traders.

Concerns about option extraction strategies are not just the theoretical fears of academic economists. Buy-side traders have complained vociferously about the increase in pennying strategies that attended the decrease in tick size upon decimalization. Their attention to this issue is strong evidence of the option values associated with limit orders.

Since traders are not fully compensated for offering free trading options to the market, they will offer less liquidity on average than they otherwise might. Since the SEC is charged in part with promoting efficient markets, it should naturally be concerned about protecting limit order option values. The subpenny pricing component of Reg NMS addresses this problem.

Order option values also explain why innovative markets find it so difficult to compete against well established dominant exchanges. Traders naturally gravitate to markets with many traders because only in such markets can they trade. Their participation in these dominant markets further strengthens the dominant markets. When markets do not allow other markets easy access to their liquidity, dominant markets will emerge. Innovative markets will have great trouble competing against dominant incumbent markets even if they provide much better service to their clients: Traders who must fill their orders will still use the dominant market because that is where they can fill their orders. Below, I explain that ECNs were able to take market share from Nasdaq but not the NYSE primarily because Nasdaq allowed them easy access to its liquidity.

Traders associate the gravitation effect of limit option values with the phrase “liquidity attracts liquidity.” Economists call the effect the “order flow externality.” The order flow externality results because traders offer free options to the market when trading.

The SEC has a great interest in the order flow externality because a significant part of its mandate is to promote competition. The order flow externality is the greatest impediment to competition among exchanges. The access, trade through, and market data components of Regulation NMS all address problems associated with the order flow externality.

Sub-Penny Pricing

The proposed restriction on sub-penny pricing is the least controversial component of Regulation MNS. Until recently, traders at various ECNs have been using sub-penny prices to obtain precedence over other traders at a given price. They have placed their buy orders at extremely small increments just above a penny, and at extremely small increments just below a penny to

obtain precedence over other traders. In many cases, they do so when attempting to extract limit order option values. In other cases, they do so simply to jump ahead of other traders.

The SEC has a strong interest in promoting trading strategies that produce price improvement. However, the price improvements associated with sub-penny pricing used solely for the purpose of jumping in front of other traders are trivial. While it might seem desirable to allow traders to trade on any increment, the costs of communicating essentially meaningless information and of making pennying strategies cheaper to implement overwhelm the benefits that traders on net might obtain from resolving their prices on sub-penny grids.

Buy-side traders have complained loudly about sub-penny pricing. Most of the ECNs have listened to their clients and now prohibit sub-penny pricing. The SEC proposal will prevent renegade systems from allowing a minority of traders to exploit the majority.

Access Fees and Liquidity Rebates

Brokers, ECNs and exchanges that represent limit orders for their clients must allow other traders to access those orders if the National Market System is to have any meaning. The proposed access standards further this objective.

Several years ago, ECNs, and more recently Nasdaq, started to charge market order traders access fees when they hit standing limit orders. The most common fee access fee is now 3 mils per share. These trading systems also rebate 2 mils per share to standing limit orders when they execute. The net fee that these systems collect for arranging trades is the access fee less the liquidity rebate. This net fee is now most commonly 1 mil per share.

This pricing system has created a significant transparency problem by making quoted bid/ask spreads one-half cent smaller than the true spread. For example, when the market is locked at 20 bid and 20 offered, the quoted spread is zero. However, the cost of buying at the ask is 20 and 3 mils whereas the cost of buying at the bid is only 20 less 2 mils. The true spread thus is 5 mils, or one-half cent.

The access fee and the liquidity rebate together transfer two mils from market order traders to limit order traders. The ECNs believe that the liquidity rebate encourages traders to offer liquidity. However, when all trading systems offer the liquidity rebate, the rebate merely decreases spreads by four mils because spreads ultimately decide whether traders will use limit order or market orders. Although the rebates initially made offering liquidity more attractive, spreads narrowed as as limit order traders competed with each other to attract market orders. The net effect has been an artificial narrowing of spreads so that the net spread remained the same.

This analysis suggests that the access fee/liquidity rebate system has had no real effect on the markets besides making quoted spreads smaller than they seem. This would be true if dealers who trade over-the-counter could also change access fees or collect liquidity rebates. However, many such dealers cannot do so since they must trade on a net basis. Since widely held best execution standards cause their clients to demand that the dealers fill their orders at the NBBO,

the access fee/liquidity rebate system places these dealers at a competitive disadvantage by decreasing the spreads that they can collect. To obtain the full spread, dealers must trade in the ECNs or in Nasdaq. The access fee/liquidity rebate system thus is noncompetitive because it creates an unlevel playing field that disadvantages over-the-counter dealers.

The best solution to this problem would be the full elimination of the access fee. ECNs and exchanges should charge limit order traders for the services that they provide them. Alternatively, they could charge both parties to the trade a common fee, or they could charge only buyers or only sellers a fee for their intermediation.

I do not understand why we permit ECNs and exchanges—which act as agents representing their customers' orders—to tell traders that they can only trade with their customers if the traders pay them for this privilege. In any other context, such arrangements are highly frowned upon if not outright illegal.

The original version of Regulation NMS proposed to cap the access fee at one mil in most cases. The ECNs claimed that this cap represented rate setting by the SEC and unnecessary interference with their legitimate business plans. Both arguments are wrong.

The SEC would not set rates by capping the access fee since the rate for exchange intermediation services is the difference between the access fee and the liquidity rebate. As long as the SEC does not regulate this difference, it will not set rates. By capping the access fee, the SEC is merely setting a common standard for how exchange intermediation fees will be collected. The incidence of these fees will be shared by the both parties to the trade regardless of how the fee is collected since spreads and/or prices adjust to reflect who pays these fees.

Capping the access fee most certainly interferes with ECN business plans, but the interference is necessary to create proper price transparency and a level playing field. A cap on the access fee thus is fully supported by the SEC mandate to promote efficiency and competition.

As noted in various releases, the SEC could solve the transparency problem by requiring that all price quotes include the access fees. Doing so would require that the quotes be expressed on sub-pennies, which for reasons discussed above would not be desirable. However, if this solution to the problem were implemented, the ECNs would undoubtedly immediately eliminate the access fee since it would disadvantage the execution of their customers' limit orders. The result then would be identical to a regulatory elimination of the access fee. This observation shows that the SEC can confidently eliminate the access fee without having any negative impact on the ECNs beyond the impact from leveling the paying field for the dealers who compete with them to act as exchange intermediaries.

The SEC should entirely prohibit access fees.

Trade Through Rules

The proposed trade through rule has been the most controversial element of Reg NMS. Many commentators believe that the rule is anticompetitive.[1] In particular, they believe that it would further establish the NYSE as the dominant exchange by forcing traders to go to the NYSE when it has the best price. Since dominant exchanges tend to have the best prices, these commentators argue that the rule would further strengthen the competitive position of the NYSE. These commentators then typically observe that the competition among exchange service providers (exchanges, ECNs, brokers, and dealers) is most keen in Nasdaq stocks for which there has never been a trade-through rule. In particular, they note that the Nasdaq Stock Market lost its dominant position to competition from ECNs whereas the ECNs have not been able to compete successfully against the NYSE. They then either implicitly or explicitly attribute the difference to the ITS trade-through rule.

Although numerous problems exist with this argument, these commentators have correctly identified the single most important question that regulators must address to fully appreciate how regulation affects the competition among exchange service providers: Why did Nasdaq lose its market share to the ECNs when the NYSE did not? The correct answer to this question involves electronic access issues and not trade through issues. The Nasdaq Stock Market lost its dominant market share to the ECNs because it allowed ECNs quick electronic access to its markets whereas the NYSE did not. The ECNs used this access to expose their clients to the liquidity available at the Nasdaq by routing marketable orders to Nasdaq and by posting their best bids and offers on Nasdaq. Here is how it works:

When an ECN receives a market order, the ECN determines whether the order would be best executed by crossing it with standing orders in the ECN order book or by sending it to Nasdaq. If the order would obtain a better execution through Nasdaq, the ECN sends the order there. Otherwise, it crosses the order internally. This procedure ensures that market order traders who send their orders to ECNs obtain executions that are at least as good as they would obtain on Nasdaq.

When an ECN receives a limit order, it first determines whether it is marketable in Nasdaq or in its own system. If it is marketable, the ECN treats it like a market order and sends it to the best market. If the order is not marketable, the ECN places it in its order book. If the order matches or improves the best price on the ECN book, the ECN revises its Nasdaq quote to reflect the improved price or size of the new order. If a market order then arrives at the ECN with which the ECN can match the standing limit order, the ECN crosses the order and adjusts its Nasdaq quote. If Nasdaq routes a marketable order to the ECN, the ECN fills the order if it has not already been filled. This procedure ensures that limit orders sent to ECNs are exposed to the entire market.

[1] See, for example, the op-ed by Peter Wallison, "Don't tell investors how much to pay for equities," that appeared on page 15 of the *Financial Times* on January 5, 2005. Since the positions of numerous parties interested in the proposed rule are now well known through their comment letters to the SEC, their presentations at conferences and at SEC roundtables, and their writings in popular and trade journals, I will not continue to cite them by name when identifying and discussing their arguments below. The staff report of the Division of Market Regulation will undoubtedly provide a much more complete identification of their identities than I could.

The exposure of a limit order in two markets at once puts the order in jeopardy of executing twice. The double jeopardy problem is especially serious if either market has slow execution, quotation, order routing, or trade reporting systems. In which case, both markets may try to execute the order before either market can cancel the order or adjust the corresponding quote.

To avoid the double jeopardy problem, when an ECN receives an incoming market order that it can match with a standing limit order on its books, it must first cancel its quote on the Nasdaq market. While the ECN is waiting for confirmation that the quote has been cancelled, it cannot fill the incoming market order without risking double jeopardy since the Nasdaq quote may have already attracted a matching order that the ECN would have to honor. If so, the ECN would have to route the incoming market order instead of filling it. Since market order traders will not permit the ECN to hold their orders for more then a few moments, ECNs can represent their limit orders in the Nasdaq market only if they can very quickly cancel them and very quickly obtain confirmation that they are out or that they have already traded.

Nasdaq's electronic order handling facilities are sufficiently fast that ECNs can represent their liquidity in Nasdaq, avoid double jeopardy, and still attract market orders. In contrast, the NYSE order handling facilities are too slow to allow the ECNs to avoid double jeopardy *and* attract market orders. Substantial delays at the NYSE in the confirmation of order cancellations and in the dissemination of trade confirmations would require that the ECNs hold incoming market orders for longer than traders would permit.[2] Accordingly, the ECNs have not been able to compete well against the NYSE. The issue has everything to do with access speeds and essentially nothing to do with trade through rules.

The slow order handling systems at the NYSE have prevented other markets from allowing their traders to interact with the liquidity that traders have placed at the NYSE. Since the NYSE is the dominant market, traders naturally gravitate to it because they cannot otherwise access the liquidity there, which of course only further strengthens its dominant position. Those interested in increasing competition among exchanges for NYSE-listed order flow should encourage the NYSE to speed up its order cancellation and trade reporting systems. Since the SEC is charged with promoting competition, rulemaking to effect such changes would be completely within its mandate.

The proposed trade through rule would prevent exchanges from trading through exposed electronically accessible orders at another exchange. In principle, such rules should not be necessary because traders generally will access liquidity wherever it is cheapest. In practice, dealers, brokers, and exchanges sometimes do trade through other orders since it is generally in their self interest to control an execution rather than share it. Accordingly, the primary benefit of the proposed trade through regulation will be to promote investor protection.

Whether such a rule is advisable given other investment protection mechanisms—caveat emptor, class action, and enforcement—depends on the relative efficiency of the various alternatives. The caveat emptor mechanism makes investors responsible for disciplining brokers who do not

[2] These delays now are primarily due to the reporting of trades arranged on the floor with orders in the book. Until recently, they were also due to the substantial periods during which specialists placed their limit order books in report mode.

serve them well. For this mechanism to work effectively, investors must be aware of when their orders are not receiving best execution. However, the costs of obtaining that information, are extremely high. Accordingly, this mechanism does not work well. Trade through rates documented by the SEC Office of Economic Analysis indicate the extent of this problem. The costs of class action and of enforcement are also quite high since judicial processes consume substantial resources. In contrast, the costs of the proposed rule are quite low since the rule only requires behavior that traders should pursue in their self interest.

The adoption of the proposed trade through rule has a precedent in the order handling rules. The primary effect of the order handing rules was to create the potential for SEC sanctions against agents who failed to act faithfully in the interests of their clients. In principle, caveat emptor, class action, and perhaps even general enforcement mechanisms could have compelled dealers to better represent their customers' orders. The order handing rules proved to far more effectively protect investors than these other mechanisms.

The proposed trade through would require that traders always seek the best price wherever it is available, if they can obtain it essentially instantaneously. Some commentators argue that such behavior is not always in the trader's best interest because price is only one dimension of best execution. They worry that this requirement to obtain best price may compromise efforts to obtain substantial size. In particular, they argue that large traders should be allowed to trade through to pay for size.

This argument is sound only if the per trade costs of arranging, clearing, and settling trades is larger than the cost savings associated with taking small sizes at superior prices. Otherwise, traders generally obtain the best average prices by first trading at the most advantageous prices.[3] The proposed rule implicitly recognizes that the marginal costs of arranging, clearing and settling trades in electronic systems are so low that the costs of trading with small traders at superior prices will rarely exceed the benefits from obtaining the superior prices.

Concerns that trade through rules may adversely affect best execution have arisen most often when such rules—the ITS rule for example—prevent traders from obtaining faster executions at inferior prices. This proposed trade-through rule would not prevent traders from trading through slow markets to obtain quicker executions. Instead, it requires that traders obtain size first where it is most available before going to slow markets. This rule is essentially the rule under which block traders who are NYSE members now operate when trading listed securities. They must clean up the book before they print their trades. The proposed rule is a weaker version of this rule, however, since it does not require that the markets be swept at the block price. Instead, it allows large traders to price discriminate as they sweep the books. Since block initiators benefit from the assembly of exposed liquidity, especially if they can trade with it at superior prices, and since block facilitators understand that they cannot sell liquidity to their clients that their clients

[3] Although it is possible to imagine circumstances where this would not be true, such scenarios tend to be unrealistic. For example, suppose that someone is willing to offer 10,000 shares at 20, all or nothing. A trade through rule that requires a buyer of 100,000 shares to trade 200 shares at 19.99 before he can reach the 10,000 shares at 20 would prevent the trader from acquiring the 100,000 shares. In an electronic world with near infinitely divisible securities, low clearing and settlement costs, and electronic order management systems, it is hard to imagine why a trader would not be willing to trade 19,800 shares for 20 if he were willing to trade 20,000 shares.

could otherwise obtain at lower cost, the proposed trade through rule merely requires that traders do what they should be doing anyway. Accordingly, the unanticipated costs of the rule should be small. Again, the reason for the rule is to protect investors from agents who might not best represent them by providing the potential for an SEC sanction against those who might exploit their clients for their own advantage.

Concerns that trade through rules adversely affect competition have also arisen in connection with the ITS system. That system is highly flawed because it grants valuable trading options to the dealers who receive ITS commitments. The options arise because the dealers have 15 seconds to respond to the commitments. Since the proposed rule applies only to electronically (and therefore essentially instantly) accessible quotes, the proposed rule should not suffer from the option problems associated with the ITS rule, which it would replace.

The ITS trade-through rule is a highly anticompetitive rule because traders must route their orders to the dominant market (NYSE or Amex) when they cannot count on the ability of satellite markets to access liquidity in the dominant market. The rule thus strengthened the dominant market. Its repeal will promote competition.

Some commentators have suggested that the proposed rule effectively creates a consolidated limit order book (CLOB) and thereby eliminates competition among exchanges and ECNs. It simply does not. The search for best price is indeed a significant consolidating process but searching for best price is not a CLOB. A regulatory requirement that ensures that traders get the price when those prices are immediately and unambiguously available at essentially no cost is a reasonable interpretation of the intention of the national market system that Congress directed the SEC to implement in 1975. Exchanges remain free to compete on numerous quality-of-service dimensions. The most important of these involve tools that liquidity suppliers may use to manage the exposure and placement of their orders on the separate exchange limit order books.

Some commentators fear that the proposed trade through rule will effectively eliminate slow trading market structures such as employed on the floors of the NYSE, the AMEX, and some regional exchanges, and with this elimination, the benefits associated with those market structures. The proposal does not prohibit exchanges from organizing slow floor-based markets, but by eliminating ITS, it does change the rules of the road for competition in trading in listed securities. Under ITS, high speed trading systems have to yield to slower systems. The rule establishes dominant exchanges because it reduces the benefits that traders who want high speed executions can obtain from exchange providers who attempt to provide such services. When high speed exchange service providers have to yield to slower systems, many high speed traders conclude that they might as well send their orders to the dominant markets since those markets ultimately will determine when their orders execute. Any advantages that they might hope to obtain from the high speed markets tend to be offset by the advantage of directly accessing the liquidity available in the dominant market. The ITS system thus is highly anti-competitive. I suspect that concerns about the ITS system lie at the core root of much of the hostility toward trade through rules. The proposed rule eliminates a bad anti-competitive trade-through rule and replaces it with a sensible investor protection rule.

The proposed rule does not prohibit the organization and operation of floor-based trading systems. The primary benefit of these systems lies in the ability of floor brokers to credibly represent to their counterparts the dangers associated with filling orders that they represent. In particular, floor brokers stake their reputations on effectively certifying by their explicit or implicit communications that the size that they represent is the full size of their orders, and that their principals are not well informed about the future security values. Orders that only represent the beginning rather than the end of interest, and orders motivated by well informed traders tend to be associated with future price changes that are adverse to the interests of those who fill those orders. Liquidity suppliers therefore are more willing to supply liquidity when they can be assured that they do not face these risks. On floor-based exchanges, brokers can communicate this information when they believe that their orders represent the full extent of their clients' interested and when they believe that their clients are largely uninformed. Brokers are not allowed to convey information to the contrary since doing so would harm their clients. However, their silence effectively communicates such information. Floor based trading systems thus favor uninformed traders who are willing to credibly reveal the full size of their orders to their brokers. These observations explain why many well informed traders and some large traders do not like floor based trading systems. The system works because floor brokers stake their reputations on the honesty of their communications. If they misrepresent the dangers of filling their orders, other traders will not trust them in the future and they will be less able to serve their clients well. Since they must stake their reputations when serving clients, floor brokers who engage in this segment of the business must know their clients well and refuse to do business with clients that might try to exploit floor brokers' reputations by misrepresenting themselves. Nothing in the proposed rule prevents exchanges from organizing floor-based markets on which brokers can cultivate valuable reputations that allow liquidity suppliers to discriminate in favor of large essentially uninformed traders. The rule merely requires that the slow markets take liquidity from faster markets when arranging their trades if the faster markets offer better prices. Since all traders—large, small, informed and uninformed—are generally interested in taking such liquidity, the proposed rule should not represent a significant burden on the benefits that floor-based trading markets can provide their customers.

If floor brokers do not provide the services described above—because they are unable or unwilling to develop the reputations necessary to provide these services—the proposed reorientation of the trade through rule from favoring slow markets to favoring fast markets will hurt the slower markets. Those markets will undoubtedly have to create fast trading systems or hybrid trading systems to survive. This outcome is in the public interest because it is not sensible to protect markets that promise to provide services if they do not actually produce them.

The proposed trade through rule slightly increases the incentives to place exposed limit orders in electronically accessible systems by increasing the probabilities that those orders will execute quickly. The rule thus would allow public investors to better compete with dealers to supply liquidity to the market, which would promote competition. Although the direct supply liquidity by investors is very important, the effect of the rule on their trading would likely be minor because, as noted above, most traders already have substantial incentives to seek best price.

The revised proposed trade through rule would apply to all electronically accessible depth rather than only to the top of the book as was originally proposed. The new rule is fully consistent with

the arguments provided above. As I have repeatedly argued, the proposed trade through rule merely requires that traders do what is most sensible: When time is not an issue, best price is the only issue. The cheapest trades to arrange are those that can be done electronically without any exposure at all. It is now very easy to sweep all markets with a fill or kill order that leaves no trace of its existence if it does not find liquidity. The public has a strong interest in having traders place firm orders into order books—whether those orders are exposed or undisclosed—since such orders are the easiest orders with which to arrange trades. Since such orders decrease the costs of searching for a trade, they increase efficiency. The SEC mandate to promote efficient markets thus motivates the application of the trade through to all electronically accessible depth.

The proposed rule has an exception for trades based on benchmark prices. The primary effect of this exception is to facilitate guaranteed price trades such as volume-weighted average price trades. These trades are essentially unregulated cash-settled forward contracts. Such contracts present some regulatory problems that the SEC has not yet adequately addressed. In particular, these contracts give incentives to dealers to engage in nontransparent strategic trading strategies that benefit them rather than their clients. Specifically, dealers have an incentive to trade aggressively early when offering guaranteed VWAP prices and to trade aggressively late when offering guaranteed closing prices.

In research that I am presently conducting at USC, I have recently empirically identified systematic intraday price patterns that are associated with the manipulation of guaranteed VWAP trade contracts. Although the results are preliminary and I have not yet had a chance to write them up and expose them to scrutiny, I am confident that I have identified an issue that should be of regulatory—and perhaps enforcement—concern to the SEC. Accordingly, the proposed exception is troubling because, at a minimum, it suggests that the SEC accepts the practice. Perhaps it should be deferred until the SEC can give further consideration to its implications.

Market Data Revenue

Market data fees currently transfer more than 400 million dollars a year from traders to SROs. Networks A and B distribute the data in proportion to reported trade counts. The Nasdaq network distributes in proportion to trades and volumes. Several SROs rebate market data revenue to traders to attract their prints. These rebates provided incentives for traders to shred their trades and conduct wash trades. When Nasdaq and Cincinnati proposed to increase their rebates in Summer 2002, the SEC abrogated their proposed rules and thereby destroyed a competitive market in favor of solving an enforcement problem.

Regulation NMS proposes to distribute these revenues using new formula that will reward exchanges where trades display firm aggressive quotes for large size. The exchanges then would be allowed to create new market data rebate programs that presumably would provide incentives to traders to quote aggressively.

The proposed rule is highly pro-competitive. It would promote both the competition for best price among traders and also the competition among exchange service providers to host the first competition.

The rule obviously promotes the competition for best price among traders by creating a competitive environment in which traders will have additional incentives to expose aggressively price limit orders and quotes. The promotion of these incentives is in the public interest because liquidity is valuable and because, as noted in the introductory section, the loss of option value discourages traders from providing as much liquidity as they otherwise might. The proposed rebate system therefore helps solve the option value problem by allowing traders to be paid for the trading options that they provide to the market. The rule thus promotes both efficiency in the provision of liquidity, and competition among traders.

The proposed rule is also fair in the sense that market data is only valuable because traders are willing to quote aggressively when arranging their trades. Those traders who make the data valuable thus would be compensated for their efforts.

The proposed rule also promotes competition among exchanges by reducing the barrier that the order flow externality imposes upon new entrants to the exchange services market. As noted in the introductory section, new trading systems have trouble attracting traders from incumbent systems because traders can derive no benefit from quoting in a new system until other traders use it. Without orders and quotes, other traders do not come and the new system may never obtain enough liquidity to compete effectively. By providing a reward for quoting, the proposed rule scheme makes it easier for an innovative trading system to compete against a dominant incumbent. The innovative trading system would be able to reward traders for quoting aggressively even if those quotes did not immediately results in trades.

The SEC rarely gets an opportunity to simultaneously promote both the competition for best price among traders and the competition among exchange service providers to be the hosts of the first competition. Most regulations that affect both competitions tend to promote one at the expense of the other. The market data proposal is a win-win proposal.

Conclusion

The proposed changes in Regulation NMS will significantly improve the efficiency of US equity markets. Although the changes have generated substantial controversy, they are all based on sound economic theory and substantial practical experience. I strongly recommend that the Commission adopt Regulation NMS.

If I can be of any further assistance to the members of the Commission or its staff, please call upon me.

Sincerely,

Lawrence Harris
Fred V. Keenan Chair in Finance
USC Marshall School of Business

cc: Chairman William H. Donaldson
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