

**Public Interest Comment on
The Securities and Exchange Commission's Request for Comment on
DISCLOSURE OF ORDER ROUTING AND EXECUTION PRACTICES¹**

The Regulatory Studies Program (RSP) of the Mercatus Center at George Mason University is dedicated to advancing knowledge of the impact of regulation on society. As part of its mission, RSP employs contemporary economic scholarship to assess rulemaking proposals from the perspective of the public interest. Thus, our response to the Securities and Exchange Commission's request for comment on the proposed rules for disclosure of order routing and execution practices do not represent the views of any particular affected party or special interest group, but are designed to evaluate the effect of the Commission's proposals on overall consumer welfare.

The Securities and Exchange Commission (SEC) has proposed two new rules that require market centers and broker-dealers to disclose execution and order routing practices. While the rules are intended to promote competition among broker-dealers and market centers, the context and implication of the SEC proposals may lead to greater concentration of trading interest among established broker-dealers and market centers. By tacitly discouraging investors from using markets or hiring agents that employ trading practices alleged to contribute to market fragmentation, the SEC's proposal to require disclosure of order-routing practices amounts to financial market engineering without regard to the potentially substantial costs to investors.

The proposed disclosure requirements for execution quality focus on a limited universe of statistics concerning price and time, leaving out other aspects of quality highly valued by investors, such as transaction costs. Firms that have led the competitive charge with technological innovation and efficient business models that have enabled them to lower commission charges for retail securities transactions will be subject to higher costs of operation and substantial litigation risk. Rather than promote competition, the proposed rules may discourage competition and result in higher costs for retail investors.

I. Background

The Commission has proposed two new disclosure rules, one requiring detailed reporting of information regarding certain aspects of execution quality at market centers and the other requiring summary reports of order routing practices used by broker-dealers that act as agents for customers. In addition, broker-dealers would be required to disclose order routing decisions on a case-by-case basis in response to customer requests.

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A. Disclosure of Execution Practices

Under proposed rule 11Ac1-5, the Commission would require each market center to tabulate and make publicly available through monthly electronic reports a particular set of uniform statistical measures of execution quality for each security. These statistics would be reported for five types of orders (market, marketable limit, inside-the-quote limit, at-the-quote limit, and near-the-quote limit orders) and four order sizes (100 – 499 shares, 500 – 1999 shares, 2000 – 4999 shares, and 5000 or greater shares). For example, an at-the-quote limit order would be executed at the best offer that can be found in the consolidated best bid and offer, also known as the national best bid or offer or NBBO. The SEC provides specific instructions for compiling and calculating the proposed measures of execution quality, including the effective spread, the rate of price improvement and disimprovement, fill rates, and speed of execution. In sum, the proposal would result in a requirement that each market center, for every security it trades, generate 20 rows of statistical information, considered over a possible 20 different types of orders and order sizes.

B. Disclosure of Order Routing Practices

Under proposed rule 11Ac1-6, the Commission proposes that all broker-dealers prepare quarterly reports that summarize and describe in detail statistics revealing the venues to which customer orders were routed, the material aspects of broker-dealers' relationships with each venue to which orders were routed, and a comparison of the quality of executions of those orders with those of comparable orders executed at other venues, and whether the broker has or intends to make any changes in its order routing practices.

The proposed rule singles out those broker-dealers who have profit-sharing relationships (which includes "preferenced" or internalized orders) or those that involve payment for order flow. The rule requires not only that these relationships be described in detail, but also that broker-dealers break out significant objectives in order-routing decisions, and perform an analysis on the extent to which executions met the objectives. The Commission stresses in the proposal that these objectives should include a discussion and analysis of when orders are routed to venues that are not posting the best price (thereby forgoing "price improvement opportunities"), indicating that the price matching practices used by those who preference order flow should be cause for concern.²

II. Order Routing and Market Efficiency

The proposed rules should be considered in the larger context of the Commission's concerns about internalization and payment for order flow.³ The Commission claims that

² *Proposed Rule*, p. 20.

³ The Regulatory Studies Program has previously commented on the Commission's Notice of Inquiry on Market Fragmentation. See Sharon Brown-Hruska and Jerry Ellig, "Public Interest Comment on the Securities and Exchange Commission's Request for Comment on Issues Related to Market Fragmentation," Comment No. RSP 2000-11 (May 10, 2000), available at <http://www.mercatus.org/>.

internalization and payment for order flow “may ultimately harm the process of public price discovery, increase price volatility, and detract from the depth and liquidity of the markets.”⁴ Contrary to the Commission’s suppositions, recent research finds that liquidity is not necessarily worse as a result of payment for order flow, and entry of third-market competitors is associated with narrower bid-ask spreads.⁵ Even with payment for order flow, broker-dealers still have incentives to offer prices that improve on the spread in order to attract order flow.⁶ And evidence suggests that quotes that emanate from outside the market centers still emit information that enhances the price discovery process.⁷

A. Order routing practices and market quality

In the proposed rules, the Commission continues to express its concern that internalization and payment for order flow arrangements “interfere with order interaction and discourage the display of aggressively-priced quotations.”⁸ But empirical research casts doubt on the supposition that traders who post the best prices do not see their trades executed and therefore lose the incentives to engage in aggressive quote competition. The evidence shows that price improvement is rewarded with an increase in market share. Anecdotal claims to the contrary are not supported by empirical research.

Payment for order flow occurs when brokers sell customer orders to trade stocks to specific dealers or trading sites. Internalization occurs when brokers direct orders to a specific market maker or specialist, or match customer orders internally or against their own inventory. Since these orders are not routed to market centers posting the best quotes, the practices of payment for order flow and internalization are sometimes referred to as “preferencing.” These order routing practices do not deny customers the best price, however, since the orders are executed at no worse than the National Best Bid or Offer (NBBO), which is the best posted quote in the market.

Price discovery occurs as information regarding the value of the stock to buyers and sellers is impounded into the price through trading. Price improvement occurs when the price at which an order is executed is better than the previously displayed best bid or offer. Substantial evidence indicates that the market centers, in particular the NYSE, are the primary sites of price discovery and most likely to price improve.⁹ Research into price discovery indicates that order flow to the NYSE increases significantly when a trader on the NYSE posts a better price. Order flows to exchanges that compete with the NYSE also increase substantially when a trader on one of those exchanges posts a price

⁴ *Proposed Rule*, p. 6.

⁵ Robert Battalio, “Third Market Broker-Dealers: Cost Competitors or Cream Skimmers?” *Journal of Finance* 52:1 (March 1997), p. 347.

⁶ Mark Klock and D. Timothy McCormick, “The Impact of Market Maker Competition on Nasdaq Spreads,” NASD Working Paper No. 98-04 (October 1998), pp. 11-12.

⁷ Joel Hasbrouck, “One Security, Many Markets: Determining the Contributions to Price Discovery,” *Journal of Finance* 50:4 (September 1995), p. 1192.

⁸ *Proposed Rule*, p. 5.

⁹ Hasbrouck (1995).

better than that offered on the NYSE.¹⁰ The evidence also indicates that Nasdaq broker-dealers attract greater order flow when they offer prices that improve on the spread.¹¹

In principle, preferencing practices could harm price discovery if the information content embedded in pockets of orders executed away from market centers does not make it to the markets where price is being determined. However, even those who engage in internalization and accept payment for order flow use the market centers to manage their inventory and to obtain price improvement when it is available.¹² Since traders access multiple markets to perform arbitrage, inventory management, and market making, information flows between the markets in both directions: price discovery occurs and orders executed off the market benefit as a result. Financial research also indicates that information embedded in quotes that are posted outside the market centers positively influences the price discovery process.¹³

Studies suggest that internalization and payment for order flow do result in “cream-skimming,” or diversion of retail market orders that are generally low risk and low cost executions to the exchange or brokerage that makes payment.¹⁴ However, scholarly research has yet to uncover direct empirical evidence that general measures of market quality, including liquidity, volatility, and price discovery, are worse as a result of these practices.¹⁵ There is no evidence to date that price efficiency — the degree to which prices reflect relevant information about the value of the stock — is harmed by internalization or payment for order flow.

B. Order routing practices and best execution

While internalization, preferencing, and payment for order flow do result in execution of a significant amount of orders outside of market centers such as the NYSE, the important issue for retail investors is the effect of these practices on the quality of their execution. In a competitive market setting like today’s brokerage industry, simple economic analysis suggests that over time, profits derived from payment for order flow and internalization will be competed away. A retail broker who accepts payment for order flow cannot attract customers away from brokers who do not receive such payments except by offering a superior combination of price and service. As a result, payment for order flow

¹⁰ Marshall E. Blume and Michael A. Goldstein, “Quotes, Order Flow, and Price Discovery,” *Journal of Finance* 52:1 (March 1997), pp. 221-244.

¹¹ Mark Klock and D. Timothy McCormick, “The Impact of Market Maker Competition on Nasdaq Spreads,” NASD Working Paper No. 98-04 (October 1998), pp. 11-12.

¹² Blume and Goldstein (1997), p. 227, suggest that inventory risk may lead market makers to send their purchased orders to the market with the best bid or offer.

¹³ Hasbrouk (1995), p. 1192.

¹⁴ Jonathan R. Macey and Maureen O’Hara, “The Law and Economics of Best Execution,” *Journal of Financial Intermediation* 6 (1997), pp. 188-223.

¹⁵ Blume and Goldstein (1992), Charles Lee, “Market Integration and Price Execution for NYSE-Listed Securities,” *Journal of Finance* 48 (1993), pp.1009-38, Battalio (1997), and Battalio, Jason Greene and Robert Jennings, “Order Flow Distribution, Bid-Ask Spreads, and Liquidity Costs,” *Journal of Financial Intermediation* 7 (October 1998).

can actually improve some aspects of execution quality, including commission rates, price certainty, other transaction costs, and speed of execution.

1. Lower commissions

Payment for order flow is associated with lower commissions for customers. For example, a study of Knight Securities, L.P., the Nasdaq market maker with the largest volume in 1998, calculated the “net trading cost” (liquidity premium, or half-spread, plus per-share commission) for investors using brokers who sent their orders to Knight. Knight paid these brokers 2.5 cents per share for their orders during the period covered by the study. The vast majority of orders saved money compared to the net trading cost of the only low-commission broker that did not receive payment for order flow. Smaller orders (250 shares or less) were especially likely to achieve savings even greater than 2.5 cents per share. This result suggests that Knight’s payment for order flow was largely passed back to small investors in the form of lower commissions.¹⁶

Customers of brokers who receive payment for order flow can be better off even if less than 100 percent of the payment is rebated to the customers. A recent study calculating a “realized liquidity premium” as an overall measure of execution quality found that the NYSE fared better by this measure than a pair of leading “third market” dealers executing trades in the same stock. This calculation, however, did not include payments for order flow. One of these firms paid 1.3 cents per share for order flow, and no more than one-third of this payment would need to flow to customers to make them as well off as if their orders had been executed on the NYSE.¹⁷ Another study assessed the impact on liquidity premiums of Bernard L. Madoff Investment Securities, which paid 1 cent per share for order flow during the period under study. Liquidity premiums were lower on the New York Stock Exchange than in the “third market,” where Madoff executed its trades. But investors whose orders were sold to Madoff would be fully compensated for the increased liquidity premium if their brokers rebated to them only 10-20 percent of Madoff’s payment for order flow.¹⁸

The Commission apparently believes that the benefit of lower commissions is negligible. The proposed rules note that the potential cost of a one tick difference in execution price on a thousand share order is \$62.50, which far exceeds differences in e-brokers’ commission rates.¹⁹ This comparison is problematic for several reasons.

First, it compares a variable cost (the spread) with a fixed one (the flat-rate commission) for an order size that is unrealistically large for a small retail investor. For a 100-share

¹⁶ Robert Battalio, Robert Jennings, and Jamie Selway, “Payment for Order Flow, Trading Costs, and Dealer Revenue for Market Orders at Knight Securities,” Indiana University working paper (August 1998).

¹⁷ Robert Battalio, Brian Hatch, and Robert Jennings, “Dimensions of Best Execution for Market Orders: Assessing Differences Between the NYSE and the Third Market,” paper presented at conference on U.S. Equity Markets in Transition (December 1, 1999), p. 21.

¹⁸ Battalio (1997), p. 349.

¹⁹ *Proposed Rule*, p. 9.

order, a one-tick difference would result in a cost of \$6.25, which compares favorably with the amount of money the investor would save by opting for a broker who receives payments for order flow and offers low, flat-rate commissions. This size comparison is more apt for the small retail investor, whose interests the SEC seeks to champion.

Second, this is a static comparison that overlooks the fact that commission rates would be higher if brokers had not cultivated efficient business practices to lower trading costs to begin with. One firm indicated that the loss of revenue from purchased order flow would not necessarily result in a change in their order routing strategy, but would translate into an increase in a per-trade “ticket charge.” This suggests that decisions regarding order routing are based on multiple factors of execution quality, with payment for order flow linked most directly to lower trading costs.

2. Price certainty

Since orders subject to internalization and payment for order flow are always executed at the NBBO or better, customers enjoy significant price certainty. Many market centers provide automatic execution under these terms, delivering a combination of price certainty and fast execution. Brokers’ agreements to trade at no worse than the NBBO, and the business models of many regional and third market participants, effectively eliminate the chance that customers will receive prices worse than the NBBO (“price disimprovement”).

Price disimprovement occurs most frequently when market orders are sent to the market center posting the best quote, but are executed at a worse price for the investor. Researchers at the NYSE report that 6.9 percent of eligible system market orders not exceeding the quoted size executed at a price worse than the NBBO. This is attributed to the fact that multiple orders may arrive to hit the quote at the same time.²⁰ Considered in this context, price matching of the NBBO employed by those who internalize or purchase order flow not only lowers the chance of price disimprovement for the preferenced order flow, but also may lower the incidence of price disimprovement experienced by retail customers seeking the best available price. Like a pressure release valve, these price matching practices act as an outlet for order flow bound for the best posted quote.

3. Other transaction costs

The practices of internalization and payment for order flow are likely to offer other improvements in execution quality that are less easily quantified. Internalization, for example, can be considered as a form of vertical integration wherein a brokerage firm efficiently and dynamically manages its inventory of securities against incoming buys and sells from its customers. These brokerages are able to minimize execution costs associated with directing orders to an exchange or other trading system, while offering their customers the benefit of a faster, market-linked execution. This linkage is reinforced

²⁰ Jeffrey Bacidore, Katharine Ross, and George Sofianos, “Quantifying Best Execution at the New York Stock Exchange: Market Orders,” *NYSE Working Paper 99-05* (December 1999).

by the brokerage firm's practical need to manage its net inventory and associated risks by executing trades in the market centers posting the best price.²¹ As a result, concerns that pockets of order flow do not interact are superfluous, since as a practical matter, brokers constantly send residual order flow to the market centers.

4. Speed of execution

An ancillary benefit of the inventory management function of brokerages that engage in preferencing is enhanced speed of execution. Since these firms or their agents maintain inventories to contain execution costs, they can satisfy demand without going to another intermediary. Evidence supporting this theory comes from a comparison of execution quality at the NYSE and two large "third market" dealers. While the NYSE offered better prices, the third-market firms offered faster executions and greater liquidity enhancement.²² This difference may typify an evolutionary move for brokerages away from competition based on order delivery and processing, where revenue was tied to transaction size, to a greater emphasis on transactional efficiency and cost minimization in order to cater to a high volume of small trade activity.

Since the order routing decision of brokers is multifaceted and dynamic, involving a number of parameters that are constantly changing, there are some risks that casual interpretation of statistical data on order execution and routing practices could lead to an incomplete assessment of execution quality. By requiring the disclosure of some, easily measurable, indicators of execution quality, the Commission implicitly certifies their importance. Such an action runs the risk of distorting order flow by channeling orders away from market centers or brokers who rate poorly on the Commission's officially-sanctioned criteria.

C. The hidden issue: cross-subsidy

The *Proposed Rule* notes that investors, and in particular institutional investors, are unanimous in their opposition to market practices such as payment for order flow and internalization. On further inspection, we find that the investors submitting comments opposing these practices are not retail investors who feel disadvantaged by their broker's order routing practices. The investors who oppose payment for order flow and internalization are the larger, better organized, and more sophisticated market participants. While their views are an important consideration, it is not clear that they represent the views of small retail investors, whose numbers have rapidly expanded, and who are less organized and more heterogeneous in their trading preferences.

Retail investors, with their diverse demands for different facets of execution quality, have contributed substantially to the competitive environment of the securities markets today. The extent to which trading activity is fragmented can be attributed in part to differentiation in trader demands and the type of executions provided by markets

²¹ Blume and Goldstein (1997), p. 227.

²² Battalio, Hatch, and Jennings (1999).

competing for their business. In addition to trading costs, including commissions and the bid-ask spread, a trading system or exchange competes on the basis of how well it meets investor demands regarding the speed of execution, transparency of trading activity, certainty of execution, order size, and even the time of transaction. Consequently, different types of traders seek to trade in different markets depending on the liquidity effects and transactions costs associated with their particular demands.²³ When brokers choose a particular execution method or venue, they know that their choices must meet a market test, because customers always have the option to go elsewhere.

As a competitive response, brokerages and markets have devised order routing practices that enable them to provide benefits and order quality features that are focused on small retail investors. Research into order routing practices such as payment for order flow and internalization suggests that the order flow that is diverted away from market centers tend to contain less information content than that which is executed in the market centers.²⁴ Since these orders represent low risk, low cost executions, and provide a useful source of liquidity that helps facilitate the execution of more difficult orders, major players in market centers, such as specialists, informed, and large traders are likely to view these practices as harmful to the quality of their executions.

An important stream of financial research establishes that price setting agents like market makers or specialists will increase the bid-ask spread to compensate themselves for potential adverse selection associated with trading with more informed traders. The potential for adverse selection arises since trading with informed traders exposes market makers to potential losses, yet market makers cannot tell if they are trading with informed traders or not.²⁵ In the standard models, uninformed traders act as liquidity traders who, if they pool with informed traders, must bear the cost of adverse selection as well, since market makers set the spread based on the expectation that some traders are informed.²⁶ As in models of optimal insurance contracts, low risk investors (uninformed) cross-subsidize high risk investors (informed) when they are pooled and charged the same rate (in this case, the spread). In these models, if the two classes can be separated into high risk and low risk, different fees can be assessed that reflect greater costs for high risk, and lower costs for the low risk agents, thereby eliminating the cross-subsidy effect.

In the case of securities markets, we observe that the pricing structure in markets where the order flow is generally not preferred (higher fixed commission, lower spread) tends to attract larger and more informed investors. The pricing structure in markets that

²³ Marco Pagano, "Trading Volume and Asset Liquidity," *Quarterly Journal of Economics* 104 (1989), pp 25-74, finds that differences in initial risk exposures due to different trader endowments may result in alternative markets for trading the same asset.

²⁴ David Easley, Nicholas Kiefer, and Maureen O'Hara, "Cream-Skimming or Profit-Sharing? The Curious Role of Purchased Order Flow," *Journal of Finance* 51(3) (July 1996), pp. 811-833.

²⁵ T. Copeland and D. Galai, "Information Effects and the Bid Ask Spread," *Journal of Finance*, 38, (1983) 1457-1469.

²⁶ Lawrence Glosten and Paul Milgrom, "Bid, Ask, and Transaction Prices in a Specialist Market with Heterogeneously Informed Traders," *Journal of Financial Economics*, 13, (1985) 71-100.

specialize in preferred order flow (low fixed commissions, other fixed benefits, higher spread) is designed to be more attractive to small retail investors.

The principal effect of payment for order flow, therefore, appears to be segmentation of investors into two groups. Smaller, less-informed investors, who are effectively less costly to serve, receive better terms than they would otherwise receive.

The effect on larger, well-informed investors is more ambiguous. The strict adverse selection model implies that these investors will face less advantageous terms, because they lose the cross-subsidy from the smaller, uninformed investors. The rise of alternative trading venues, however, can also create competitive pressures that push down costs for all investors.

Financial research suggests that sometimes the adverse selection effect predominates, and sometimes the competition effect does. Cross-market spread comparisons have documented an increase in realized spreads (measured as price reversals after trades), suggesting that the removal of uninformed trades increases the adverse selection faced by the market center with a more informed clientele.²⁷ On the other hand, quoted spreads in market centers actually decrease upon the entry of third-market broker-dealers who engage in preferencing, possibly reflecting the exertion of competitive pressures on market centers.²⁸ One study even found that the competition effect and the adverse selection effect predominated in different years.²⁹

Given these findings, it is highly inaccurate to characterize payment for order flow as a means by which the opportunistic brokers receives kickbacks for exploiting retail investors' ignorance. Rather, payment for order flow is part of a pricing strategy that lets retail investors avoid being the source of cross-subsidies for larger, more informed traders. It is thus no surprise that large institutional investors dislike the practice. In debating this issue, however, the Commission should consider the benefits that payment for order flow bestows on retail investors as well as the cost that it may or may not impose on institutional investors.

III. No Market Failure in the Provision of Information

Even if the ultimate goal of the proposed rule is something other than curtailing payment for order flow, the Commission has failed to demonstrate that the disclosure rules remedy any type of "market failure." To make an economic case for mandated disclosure, a key necessary condition is the existence of a market failure that the mandate could potentially remedy. If there is no market failure, there is no justification for the mandate.

²⁷ Hendrick Bessembinder and Herbert M. Kaufman, "A Cross-Exchange Comparison of Execution Costs and Information Flow for NYSE-listed Stocks," *Journal of Financial Economics*, 46(1997), pp. 293- 319.

²⁸ Battalio (1997), p.341.

²⁹ David C. Porter and John G. Thatcher, "Fragmentation, Competition, and Limit Orders: New Evidence from Interday Spreads," *Quarterly Review of Economics and Finance* 38:1 (Spring 1998), pp. 111-28.

Textbook models of perfect markets assume that marketplace participants possess perfect information – or at least that buyers and sellers have equal access to all relevant information.³⁰ Viewed in this light, incomplete information is a “market imperfection” that could potentially be corrected by government action. If someone possesses information that other market participants would find useful, regulators need do nothing more than mandate and enforce disclosure in order to correct the market failure.

This is the market failure theory that appears to underlie the Commission’s proposals. Unfortunately, this type of theory virtually guarantees that the analyst will find real-world markets rife with imperfections, because it compares real-world markets with an unrealizable ideal. The practice of calling real-world markets “imperfect” because participants lack complete information is an example of what economists call the “Nirvana fallacy.”³¹ An analyst commits the Nirvana fallacy whenever he or she compares a real, functioning market with an unrealizable ideal – such as a market in which all participants have complete information.

A more realistic approach begins by acknowledging that information is not costless. The production and dissemination of information requires scarce resources. Once we acknowledge that information is costly, it is unrealistic simply to label as a “market failure” any situation in which market participants lack complete information. Because information is costly, information itself is traded in markets – either explicitly, as when a news service purchases stock market data, or implicitly, as when a stock broker supplies investors with real-time stock quotations as part of the package of services that investors receive in exchange for their commissions.

A market failure in regard to information occurs only when some market participants lack information whose value exceeds its costs of production and dissemination. In this situation, there are potential gains from trade between the people who possess (or could produce) the information and the people who lack it, but for some reason these gains from trade are not realized. The market is said to fail because people who could have reaped gains from trade are unable to do so. In such a situation, an accurate cost-benefit analysis would show that the benefits of mandated information disclosure exceed the costs.

The costs of such a mandate are likely to exceed the benefits if the market in question is competitive. In a competitive market, firms have incentives to supply customers with any information whose value to customers exceeds the costs of producing and disseminating it. (In this way, information is like any other good or service.) It therefore follows that if the brokerage market is competitive, brokers have incentives to disclose any information whose value to customers exceeds the costs of production and dissemination. Similarly, if market centers compete with one another, individual market centers have incentives to disclose any information whose value to customers exceeds the costs of production and dissemination.

³⁰ Edwin G. Dolan and David E. Lindsey, *Microeconomics*, 6th ed. (Chicago: Dryden Press, 1991), p. 182.

³¹ Harold Demsetz, “Information and Efficiency: Another Viewpoint,” *Journal of Law & Economics* 12:1 (March 1969), pp. 1-22.

Mandated disclosure, therefore, is potentially justified only if the markets for retail brokerage services or trade executions are not competitive. The Commission has neither made these claims nor presented any evidence that would support them. As a result, the Commission has failed to demonstrate that the proposed disclosure rules address any genuine market failure.

A. The Retail Brokerage Market is Competitive

No one seriously suggests that the retail brokerage market is not competitive. There are hundreds of retail brokers, from national chains to local enterprises, including both “full-service” and “discount” firms. The online brokerage segment alone boasts six different firms with substantial market share – accompanied by 154 smaller competitors!³² Banks also offer a new source of competition as they seek to exploit existing customer relationships to expand into stock brokerage.³³

Retail brokerage is not just competitive in the classic textbook sense that there are many firms. It is also competitive in a more important and dynamic sense.³⁴ Since the deregulation of brokerage commissions in 1975, the industry has been beset by waves of innovation in which competitors seek to capitalize on different capabilities to serve different types of customers. Discount brokers, Internet brokers, and banks are all examples of firms with different types of strengths and weaknesses employing business models that are different from those of the traditional brokerage houses.

B. The Market for Execution Services is Competitive

The Commission’s discussion of the proposed rule notes the many forms of competition that exist for order execution. A security listed on the New York Stock Exchange can be routed to the exchange floor, to competing regional exchanges, or to an ATS. The sheer number of competitors is even larger for Nasdaq securities:

With Nasdaq equities, orders have been routed to an even greater number of distinct market centers. In May 2000, for example, there were an average of 53.5 market makers in the top 1% of Nasdaq issues by daily trading volume, 26.3 market makers in the next 9% of issues, and an overall average of 12.3 market makers per issue. In addition, orders can be routed to an ATS. Finally, several of the regional exchanges trade, or are planning to trade, Nasdaq equities.³⁵

³² Commissioner Laura S. Unger, “On-Line Brokerage: Keeping Abreast of Cyberspace” (Nov. 1999), available at www.sec.gov/pdf/cybrtrnd.pdf.

³³ Lawrence Richter Quinn, “Banks and Their Competitors Shell Out in Race for Affluent,” *American Banker* (Aug. 29, 2000), p. 7.

³⁴ For a fuller explanation of dynamic competition, see Shelby Hunt, *A General Theory of Competition* (New York: Sage, 2000), and Jerry Ellig (ed.), *Dynamic Competition and Public Policy: Technology, Innovation, and Antitrust Issues* (New York: Cambridge University Press, forthcoming).

³⁵ *Proposed Rule*, p. 8.

Exchange specialists and Nasdaq broker-dealers must also compete with customer limit orders. Limit orders are an important source of competition. A 1996 study estimated that NYSE market orders were filled through trades with the specialist only 18 percent of the time. Floor brokers received the trade a little more frequently—22 percent of the time. A whopping 55 percent of market orders were filled through trades with publicly-displayed limit orders.³⁶

A final source of competition is potential competition. Alternative trading systems, for example, did not even exist several years ago. In addition, even established exchanges compete for trading volume. When most of the trading in a security is concentrated in a single market center, that does not necessarily mean that the dominant market center has the ability to exercise market power. One cannot accurately evaluate the extent of competition merely by counting the number of competitors and their market shares. The reason is that trading of financial instruments is a highly contestable market, and potential competition constrains the total price that a venue can charge for transactions and data.

Futures markets provide a good illustration of how potential competition constrains the behavior even of a dominant market center. The London International Financial Futures & Options Exchange (LIFFE) dominated the market for futures contracts on European benchmark German 10-year bonds until the Deutsche Terminboerse (now Eurex) introduced a screen-based version of the same contract. Within months of its conversion to electronic trading, Eurex became the new dominant market for trading German bonds, completely displacing the LIFFE and leading LIFFE to adopt an electronic trading system of their own.³⁷ More recently, the Chicago Board of Trade and the Chicago Mercantile Exchange introduced the competing futures and options contracts on mortgage-backed securities. While volume is likely to migrate to one exchange, the experience of LIFFE suggests that market power is fleeting as long as traders are given the ability to choose the market in which they trade.

Thus, even if all liquidity for a stock gets concentrated in one market center, that market center cannot behave as a monopolist, because it would be easy for another market center to displace it by offering better terms. This displacement might be total, as in the case of the German bonds on LIFFE, or it might involve a particular sector of the market that finds that one type of trading mechanism better matches its customers' needs.

The available evidence suggests that the market for execution services is highly competitive. Given that reality, individual market centers have strong incentives to disclose any information on execution quality whose value to investors exceeds the cost of production and dissemination.

³⁶ Katharine D. Ross, James E. Shapiro, and Katherine A. Smith, "Price Improvement of Super Dot Market Orders on the NYSE," NYSE Working Paper 96-02 (March 11, 1996).

³⁷ Silvia Ascarelli, "London Exchange Going Electronic With German Bond," *Wall Street Journal*, (June 18, 1998), p. B2.

C. Research Raises Doubts that Investors Value Mandated Disclosure

Research on other forms of mandated disclosure in securities markets also calls the market failure rationale into question. Mandated disclosure has had little or no positive effect on stock prices or shareholder returns, which implies that mandates usually call forth no new relevant information. This is true even for some forms of mandated disclosure widely believed to be essential for well-functioning markets:

- Greg Jarrell, former chief economist at the Commission, found that the Securities Act of 1933, which mandated information disclosure for new stock issues, actually reduced returns to shareholders.³⁸
- George Benston found that shareholder returns for NYSE-listed companies that were forced by the Securities Act of 1934 to disclose their sales for the first time were almost identical to returns for NYSE-listed companies that were already reporting their sales voluntarily.³⁹
- In a wide-ranging assessment of financial regulation studies, Benston noted, “The few studies that examine mandated disclosure – such as of income and expense by line of business, price level adjusted data, replacement cost data, oil and gas exploration expenditures, lease capitalization, pension liabilities, foreign currency translations, use of generally accepted accounting principles (GAAP) by banks, restatement of investments in securities to market values, and disclosure of fully diluted earnings per share – have found either no or small effects on stock prices. Thus, it appears that mandated disclosure has added little information that was not already incorporated into stock prices or was of little or no value to investors.”⁴⁰

Scholarly studies suggest that mandated information disclosure does little to improve the performance or fairness of securities markets. For this reason, markets should receive the benefit of the doubt, and the Commission should not adopt proposals for additional mandated disclosures unless there is clear, compelling, and reliable evidence that the benefits will surely exceed the costs.

IV. Cost/Benefit Analysis

The *Proposed Rule* includes some estimates of compliance costs, but it considers no other costs. Additional significant costs include new lawsuit risks that the disclosures will

³⁸ Greg Jarrell, “The Economic Effects of Federal Regulation of the Market for New Securities Issues,” *Journal of Law & Economics* 24 (Dec. 1981), pp. 613-75.

³⁹ George Benston, “Required Disclosure and the Stock Markets: An Evaluation of the Securities Exchange Act of 1934,” *American Economic Review* 63 (March 1973), pp. 132-55.

⁴⁰ George J. Benston, *Regulating Financial Markets: A Critique and Some Proposals*, Hobart Paper 135 (London: Institute of Economic Affairs, 1998), p. 78. See also Benston, “Security for Investors,” in Robert W. Poole, Jr., *Instead of Regulation* (Lexington, MA: Lexington Books, 1982), pp. 169-206.

create for both brokers and market centers, and a curtailment or elimination of preferencing that would harm retail investors.

The Commission's analysis also vastly overstates the net benefits of the rule by treating wealth transfers asymmetrically – counting them as a benefit to investors but not a cost to brokers and market centers.

A more accurate analysis would identify the *net* benefits of the proposed rules, defined as the value created by the additional transactions that would occur as a result of the rules.

A. Legal Costs

Lawsuits present an additional form of cost that the Commission should consider. Disclosure of information under both of the rules could expose market centers and brokers to substantial legal liability. The proposed rules provide a uniform set of statistics regarding the price and speed of order executions at market centers. The rules also require brokers to disclose what markets they generally use and what business relationships they have with the executing brokers. A market center with below-average execution statistics, or a broker that receives substantial payment for order flow, could easily find itself the target of class-action lawsuits from attorneys purporting to represent aggrieved groups of investors. The costs that market centers or broker-dealers incur to defend themselves against or settle such lawsuits should be included as real costs of the rules.

Such costs are not merely hypothetical. A major broker recently settled a class action lawsuit in which it was accused of failing to provide best execution because it received payments for order flow. The company committed to \$20 million worth of expenditures on investor education and improved investor information.⁴¹ The Commission's proposed regulations give class action plaintiffs a new source of "objective" evidence that could be used to support similar lawsuits. Market centers with "below average" figures in some categories, or brokers who route orders to such market centers, would be especially vulnerable—even if the market centers or brokers provide investors with other benefits that are not measured by the statistics the Commission wants market centers to disclose.

B. Hidden Costs to Investors

The true costs of a rule include not just the explicit costs to market centers and brokers, but also the costs borne by investors because they can no longer engage in certain types of beneficial transactions. The analysis in Section II of this comment suggests that internalization and payment for order flow create net benefits for smaller, less-informed investors who would otherwise be a source of cross-subsidies for larger, well-informed investors. Such benefits may consist of lower total transaction costs (spread plus commission), or they may also include other aspects of execution quality that investors

⁴¹ *Gordon Dumont vs. Charles Schwab & Co., Inc.*, Civil Action No. 99-2840, Memorandum Opinion and Orders, U.S. District Court, Eastern District of Louisiana (July 21, 2000).

value, such as price certainty or speed. To the extent that the proposed rules reduce preferencing, the rules could impose substantial costs on precisely those investors the Commission is trying to help.

The proposed rules could reduce internalization and payment for order flow for two reasons.

First, to avoid the risk of lawsuits, market centers and broker-dealers might simply adopt less efficient business practices to defend themselves from liability. Market centers would focus on improving their performance on the statistics that are measured and disclosed, giving less emphasis to other aspects of execution quality that may be valuable to investors. Market centers and dealers could curtail or discontinue payment for order flow, which tends to give smaller orders a larger reduction in transaction costs. Such changes would make some investors worse off, and this should count as a cost of the proposed rules.

Second, mandatory disclosure of preferencing arrangements, combined with repeated statements by Commissioners critical of preferencing, would likely lead many investors to believe that there is something unsavory about such practices.⁴² As a result, these investors would either cease patronizing the broker-dealers that employ such practices, or broker-dealers would eliminate or curtail the practices in order to retain customers. Investors who benefit from these practices would then be worse off, and their losses should count as costs.

C. Benefits of the Rules

The Commission's proposal makes one attempt to quantify benefits, in the context of Proposed Rule 11Ac1-5. The analysis employs the following chain of logic to arrive at an estimate of benefits:

For example, the competition that flows from the required disclosure will likely reduce differences in spreads between market centers. If this competition induces market centers whose effective spread is greater than the median effective spread to execute trades at the median effective spread, the rule could lead to substantial savings for investors. For example, the annual savings to investors who submit market orders in Nasdaq stocks under this assumption is estimated to be \$160 million. Moreover, if all Nasdaq market centers executed trades at the lowest effective spread, the savings to investors would be even greater. There could also be a similar type of benefit for investors in the listed markets...⁴³

⁴² The idea that regulation can promote misperceptions on the part of consumers is well-documented. For example, mandatory automobile safety inspections have no effect on highway safety, but public opinion polls show that most people believe driving is safer because these inspection programs exist. See W. Mark Crain, *Vehicle Safety Inspection Systems: How Effective?* (Washington, DC: American Enterprise Institute, 1980).

⁴³ *Proposed Rule*, p. 29

There are two problems with this chain of reasoning.

First, it assumes that the proposed rules would actually lower spreads by expanding competition, rather than raising them because of increased costs associated with mandated disclosures. Information disclosure is costly. Imposing new costs on market centers and brokers means that the median spread (or whatever other spread the Commission wants to use as a benchmark) would rise above its current level. The relevant spread for calculating savings to investors is not the current median or other benchmark, but rather the median or other benchmark augmented by an amount equal to the compliance and other costs. For this reason, the \$160 million figure overstates the amount of money investors would save as a result of the proposed rules.

Second, it assumes that the reduction in spreads would not be accompanied by an increase in some other transaction cost or a diminution in some aspect of service quality as firms seek to offset the revenue loss.

D. Assessing Net Benefits⁴⁴

To accurately assess the costs and benefits of the Commission's proposal, one must carefully distinguish between net social benefits and wealth transfers. In its only attempt to quantify the benefits, the proposed rule fails to do so.

The reduction in spreads that the SEC posits would lead to a substantial transfer of wealth from market centers and brokers to investors—or, more accurately, from the investors who ultimately own brokerages and market centers to the general class of investors as a whole.⁴⁵ The Commission's analysis of Proposed Rule 11Ac1-5 suggests that the rule might save investors \$160 million by reducing spreads.⁴⁶ A footnote to the proposed rule states that the \$160 million figure represents “the benefits summed over all Nasdaq stocks for one year.” Although it is not absolutely clear, the figure appears to represent an estimate of savings per transaction multiplied by the number of transactions. This sum is simply a transfer of wealth from brokers and market centers to investors.

This wealth transfer should not be counted as a benefit *unless* an equal amount is included as a cost to market centers and investors. Holding other things constant, if spreads paid by investors fall, then total compensation to market centers and brokers also falls by a similar amount. Therefore, if the \$160 million is considered a benefit to investors from the rule, it must also be counted as a cost to market centers and brokers.

When calculating the net benefits or costs of a rule, such wealth transfers cancel each other out. One party's gain is another party's loss. For this reason, it might be advisable simply to ignore the wealth transfers. Alternatively, the Commission could treat the

⁴⁴ For more details on the economic theory underlying this approach, see Jay Cochran, “Toward a Taxonomy of Regulatory Costs,” Regulatory Studies Program Working Paper (June 1, 2000), pp. 11-14.

⁴⁵ Since many brokerage firms are now publicly-held, the distributional and equity effects of such a transfer among investors would be horrendously complicated to ascertain.

⁴⁶ *Proposed Rule*, p. 29.

wealth transfers simultaneously as costs and benefits. There is no economic justification, however, for counting a wealth transfer as a benefit to some or all investors, but excluding it as a cost to market centers and brokers. Such accounting merely obscures the true effects of the proposed rules.

An accurate calculation of the *net* social benefits (or costs) of the disclosure rules would quantify the value of the additional transactions that occur as a result of the change in total transaction costs. To perform such a calculation, the Commission would need to estimate not just the potential reduction in transaction costs, but also the elasticity of transaction volume with respect to transaction costs. The net social benefits are approximately equal to

$$0.5 \times (\text{reduction in transaction costs}) \times (\text{percentage reduction in transaction costs}) \times (\text{elasticity})$$

Even if the Commission is correct that the proposed rules will lower transaction costs, a proper estimate of the net social benefits would be well below \$160 million, because it includes only the transactions that would not have been undertaken in the absence of mandated disclosure. It is nevertheless the proper measure, for it quantifies the value of the additional transactions that are assumed to take place as a result of the disclosure rules.

E. Incorporating Cross-Subsidies

The discussion in the previous section assumed, for the purpose of distinguishing between wealth transfers and the value of increased transaction volume, that the proposed rule has the spread-reducing effect assumed in the Commission's analysis. The presence of cross-subsidies makes the actual effect slightly more complicated to assess, but the key distinction remains: wealth transfers are not a net social benefit, but the value of increased transaction volume is.

The proposed rules would likely raise transaction costs for investors whose orders are currently preferenced. They would either raise or lower transaction costs for other investors, depending on whether adverse selection or competition effects predominate. Therefore, a separate calculation of net social costs or benefits should be made for each group of investors, and the estimates should be combined to assess the net effect.

If the proposed rules reduce transaction costs for large investors by reducing preferencing and thereby redirecting orders to non-preferencing market centers, the transaction volume from large investors will rise in response to the reduction in transaction costs. The value of this transaction volume should be counted as a net cost rather than a net benefit. The reason is that cross-subsidies from smaller, less-informed investors create an artificially low price for the large, well-informed investors. The latter group faces a price that is below the true cost of the resources used to serve them. In such a situation, the increased transaction volume is a social waste, not a social benefit.⁴⁷

⁴⁷ To see how this type of analysis is performed in the context of another industry rife with cross subsidies – telecommunications – see Robert W. Crandall and Leonard Waverman, *Who Pays for Universal*

F. Substantial Costs with no Apparent Benefits

A reading of the proposed rules gives the impression that the potential benefits to investors are large, and the costs are miniscule. This impression occurs for two reasons. First, the proposal counts a \$160 million wealth transfer to investors as a benefit, without including it as a cost to market centers and brokers. Second, the proposal considers only compliance costs for market centers and brokers, ignoring other effects of the rules that could impose substantial costs on market centers, brokers, and investors.

An accurate cost/benefit analysis would focus on assessing the net social benefits, defined as the value of the additional transactions that would occur as a result of the rules. At best, such a calculation would show that the net benefits are much smaller than the analysis accompanying the proposed rule suggests. More likely, such a calculation would show that the net benefits are negative, because the rules would give market centers and brokers incentives to curtail business practices that benefit a substantial number of investors.

V. Conclusion

The Commission proposes that market centers be required to disclose a limited set of execution statistics and that brokers be required to disclose whether they accept compensation for directing their order flow to a particular execution venue.

There is no evidence of a market failure that could justify these mandates. Both the retail brokerage market and the trade execution market are highly competitive. In a competitive market, firms have incentives to disclose any information whose value to customers exceeds the cost of disclosure. Thus far, investors appear to place little value on the information that the Commission would force market centers and brokers to disclose. Additional grounds for caution come from academic research on the effects of other forms of mandatory disclosure in the securities industry, which suggest that mandates bring forth little new valuable information.

Underlying the proposed rules is a concern that preferencing undermines market efficiency and prevents investors from having their orders executed on the most advantageous terms. Little evidence supports either contention. Preferencing does not impede price discovery. Quote competition is vigorous, and a number of studies demonstrate that dealers, market makers and market centers whose quotes improve on the NBBO are rewarded with greater order flow. Payment for order flow may be associated with higher spreads, but it is also accompanied by lower commissions and other transaction costs, greater price certainty, speedier executions, and other benefits. The highly competitive retail brokerage market ensures that investors whose orders are preferenced will receive a package of transaction costs and ancillary benefits that makes them at least as well off as if their orders were not subject to preferencing.

Service? (Washington: Brookings, 2000) and Robert W. Crandall, *After the Breakup* (Washington: Brookings, 1991), Ch.5.

Payment for order flow is arguably part of an efficient pricing strategy that segments the market. Orders of smaller, less-informed investors are removed from the major market centers to venues where they are executed at lower cost to both the dealer and the investor. Larger, well-informed investors may bear higher transaction costs as a result. These higher transaction costs reflect the genuinely higher costs of trading with such investors. Curtailing preferencing would promote cross-subsidization of large, well-informed investors by small, less-informed investors.

The proposed rules would likely produce net social costs, not benefits. In addition to compliance costs, market centers and brokers would bear a greater risk of spurious lawsuits. In the presence of mandated disclosure, the combination of legal liability and moral suasion by the Commission would likely lead to a curtailment of preferencing, much to the detriment of the retail investors the Commission seeks to help. Larger investors may receive a cross-subsidy, but a cross-subsidy that creates artificially low prices would lead to a wasteful expansion of trading volume.

Before adopting the proposed rules, the Commission would do well to recall the words of Nobel laureate George Stigler, an early pioneer in the economics of information: “Ignorance is like subzero weather: by sufficient expenditure its effects on people can be kept within tolerable bounds, but it would be wholly uneconomic entirely to eliminate all of its effects.”⁴⁸

⁴⁸ George J. Stigler, “The Economics of Information,” *Journal of Political Economy* Vol. 69 No. 3 (June 1961), pp. 213-225.

Appendix I
RSP Checklist

SEC Proposed Rule on Disclosure of Order Routing and Execution Practices

Element	Commission Approach	RSP Comments
1. Has the Commission identified a significant market failure?	<p>The SEC expresses concern that customers whose orders are preferenced will be forced to trade at prices inferior to those available elsewhere in the market. Mandatory disclosure of execution statistics and order routing practices would assist investors in bringing pressure on brokers and market centers to curtail or end preferencing if investors believe it does not advance their interests.</p> <p>Grade: F</p>	<p>The Commission has presented no evidence of a market failure to justify the regulation. The markets for retail brokerage and for order execution are highly competitive, suggesting that market centers and brokers decline to disclose this information because the value to investors is less than the cost of producing and disclosing the information. There is also no evidence that “market fragmentation” induced by preferencing impairs price discovery, and some evidence that preferencing creates net benefits for investors whose orders are preferenced.</p>
2. Has the Commission identified an appropriate federal role?	<p>The SEC claims authority to impose a wide variety of regulations intended to prevent fragmentation under its authority to regulate financial markets granted by the Securities and Exchange Act Amendments of 1975.</p> <p>Grade: B</p>	<p>The Commission presents a convincing case that it has legal authority to implement its proposed rules. The vast majority of securities transactions are clearly interstate if not international in nature.</p>

Element	Commission Approach	RSP Comments
3. Has the Commission identified alternative approaches?	<p>The Commission considered several alternatives to combat preferencing and “fragmentation” in general, finally deciding on information disclosure.</p> <p>Grade: C</p>	<p>The Commission failed to consider voluntary, market-based approaches to information dissemination that would allow market centers and brokers to disclose only that information whose value to investors exceeds the cost of disclosure.</p>
4. Does the Commission attempt to maximize net benefits?	<p>Proposed rules estimate compliance costs but acknowledge no other possible costs. One attempt is made to quantify benefits, in the form of a highly speculative calculation regarding the effect of the proposed rules on spreads.</p> <p>Grade: D</p>	<p>The Commission fails to quantify most of the significant costs, such as legal liability and curtailment of preferencing. The sole attempt to quantify benefits mistakes a wealth transfer for a net social benefit. It is not clear from the analysis whether the Commission understands how to estimate a net social benefit.</p>
5. Does the proposal have a strong scientific or technical basis?	<p>The justification for Commission action must rest on a theory of market failure, but the Commission has done a poor job of explaining why the problems it seeks to solve satisfy the economic definition of market failure.</p> <p>Grade: F</p>	<p>The proposal ignores economic scholarship demonstrating that preferencing does not impair market efficiency, that investors whose orders are preferenced receive substantial benefits, and that the brokerage and trade execution markets are highly competitive.</p>

Element	Commission Approach	RSP Comments
6. Are distributional effects clearly understood?	<p>The Commission assumes that preferencing harms investors whose orders are preferenced. The proposed rules note that most investor comments submitted in response to the Market Fragmentation concept release oppose preferencing, but fails to note that these comments are all from large institutional investors.</p> <p>Grade: F</p>	<p>The proposed rules ignore evidence that preferencing actually benefits the investors whose orders are preferenced. Preferencing is part of a pricing strategy that moves the orders of small, uninformed investors out of the primary market center, where these orders would otherwise cross-subsidize large institutional investors. The Commission’s attack on preferencing thus promotes cross-subsidies from small, uninformed investors to large, informed investors.</p>
7. Are individual choices and property impacts understood?	<p>The Commission simply assumes that brokers and exchanges have a duty to disclose whatever information it believes investors should have. Proposed rules also assume that there is “one best way” of dealing with perceived problems.</p> <p>Grade: F</p>	<p>The proposed rules show no concern that confidentiality of information about business practices may actually benefit investors by making collusion less likely. Commission’s one-size-fits-all approach to disclosure would limit individual choice in selecting market characteristics that meet diverse investor demands.</p>