CITADEL | Securities

March 31, 2023

Ms. Vanessa A. Countryman
Secretary
Securities and Exchange Commission
100 F Street NE
Washington, DC 20549–1090

Re: Disclosure of Order Execution Information (File No. S7-29-22)

We appreciate the opportunity to provide comments to the Securities and Exchange Commission (the "Commission") on its proposal to update execution quality disclosures (the "Proposal").[1] We support the Proposal, which will materially improve the information that is made available to investors. Ensuring clear and accurate data regarding execution quality will empower investors, promote competition, and improve the efficiency of the U.S. equities market.

The Proposal contains commonsense improvements that will result in metrics that better inform investors regarding execution quality. These include taking into account size improvement provided by wholesale broker-dealers,[2] expanding the scope of Rule 605 to capture many more retail-sized orders, and ensuring that non-retail orders are separated from retail orders in the reports produced by wholesale broker-dealers. Other aspects of the Proposal would benefit from further technical revision, such as accurately calculating the important "average effective over quoted spread" metric,[3] categorizing orders by notional size instead of round-lots, and ensuring that order size is appropriately taken into account when measuring execution quality. In addition, we recommend that the Commission further consider how to accurately report execution quality metrics for non-retail orders before requiring a separate Rule 605 report for a single-dealer platform ("SDP"). We detail the necessary technical revisions in Section II below.

We are concerned, however, that the Commission uses existing Rule 605 reports in attempting to justify its three other equity market structure proposals while simultaneously acknowledging the limitations of those reports in this Proposal.[4] It is arbitrary and capricious for the Commission to pursue sweeping market structure changes without first implementing this Proposal and analyzing the updated metrics. For example, recent academic research found that updating Rule

[1] Disclosure of Order Execution Information (Dec. 14, 2022), 88 FR 3786 (Jan. 27, 2023), available at: https://www.govinfo.gov/content/pkg/FR-2023-01-20/pdf/2022-27614.pdf.

[2] Size improvement reflects that retail investors not only frequently get better prices than those publicly quoted, but they often get their orders filled at such prices for more shares than are publicly displayed.

[3] "Effective over quoted spread" measures whether the actual transaction price was better than the quoted price on-exchange at the time of order entry.

[4] Regulation Best Execution, 88 FR 5440 (Jan. 27, 2023) ("Best Execution Proposal"); Order Competition Rule, 88 FR 128 (Jan. 3, 2023) ("Order Competition Proposal"); Regulation NMS: Minimum Pricing Increments, Access Fees, and Transparency of Better Priced Orders, 87 FR 80266 (Dec. 29, 2022).

605 may increase reported price improvement statistics by *5 times*.[5] With this level of imprecision in the current data, the Commission must first implement this Proposal, accurately assess current execution quality, and then determine whether additional changes to U.S. equity market structure are merited. At a minimum the Commission must first implement this Proposal to establish a proper baseline so that the impact of any other rules can be properly evaluated.

[5] *See* Battalio, Robert H. and Jennings, Robert H., Why Do Brokers Who Do Not Charge Payment for Order Flow Route Marketable Orders to Wholesalers? (Dec. 14, 2022) at 20, available at: https://ssrn.com/abstract=4304124 ("Battalio study").

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I. The Proposal Makes Key Improvements to Execution Quality Metrics That Must Inform Other Commission Action

Ensuring clear and accurate data regarding execution quality will empower investors, promote competition, and improve the efficiency of the U.S. equities market. We agree with the Commission that this Proposal will "lead to increased competition between reporting entities on the basis of execution quality," and will likely cause broker-dealers to "reevaluate their best execution methodologies to take into account the availability of new statistics and other information that may be relevant to their decision making."[6] Notably, reported wholesale broker-dealer metrics should further improve as a result of the Proposal, clearly demonstrating the exceptional execution quality delivered to retail investors. For example, recent academic research found that updating Rule 605 may increase reported price improvement statistics by *5 times*, which would equate to approximately $15 billion in 2022.[7]

Given the anticipated effects of the Proposal, and the acknowledged limitations of current Rule 605 data, it would be arbitrary and capricious for the Commission to pursue sweeping market structure changes without first implementing this Proposal. Yet that is exactly what the Commission is doing. Indeed, the Order Competition and Best Execution proposals cite to the incomplete Rule 605 data more than 150 times in the Commission's (flawed) attempt to justify sweeping changes to how retail orders are executed. Implementing this Proposal first will also ensure that the impact of any other market structure changes can be accurately measured, which will be extremely challenging if the underlying metrics are also changing at the same time.

Furthermore, we urge the Commission to focus on providing clear and accurate execution quality metrics to retail investors that will allow them to make informed decisions, rather than on proposals that are explicitly designed to restrict investor choice and dictate market structure outcomes, which in practice are likely to reduce retail execution quality and overall market competition.[8] Finally, it bears mention that the Commission's Order Competition Proposal would require most retail orders to be sent to an exchange auction mechanism, which directly undermines this Proposal's requirement that individual retail broker-dealers separately report execution quality data. It stands to reason that if retail orders are all being sent to the same exchange auction mechanism, then there is little value in comparing execution quality across retail broker-dealers.

[6] Proposal at 3884.

[7] *See* Battalio study at 20.

[8] *See* our responses to the Commission's other equity market structure proposals.

II. Suggested Technical Improvements

While we support the Commission's efforts to improve Rule 605 data, certain of the proposed metrics should be further revised in order to deliver informative execution quality data to market participants. Execution quality data should be clear and accessible without requiring further complicated assumptions or analysis to decode the data that is published pursuant to Commission rules. We detail several technical revisions below, and also encourage the Commission to carefully review the detailed recommendations contained in the letter submitted by the Financial Information Forum ("FIF").

Separately, we agree with the Commission that the detailed Rule 605 reports are often difficult for retail investors to analyze. However, the proposed solution – creating a high-level summary report – could lead to retail investor confusion if the summary report does not adequately capture or explain the differences in order flow that are present across different market centers and broker-dealers. To the extent that the Commission believes retail investors will rely on the summary report to evaluate brokers, it is important that the summary metrics accurately reflect the execution quality delivered to similar individual investor orders. Given that retail broker-dealers will be producing detailed stock-by-stock execution quality metrics for the first time under this Proposal, it may make sense for the Commission to first implement the important revisions to Rule 605, evaluate the resulting data, and then work with FINRA, retail brokers, and retail investors to determine how to best produce a summary report that provides digestible and accurate execution quality information.

A. Effective Over Quoted Spread Should Use A Spread-Weighted Average

Effective over quoted spread ("E/Q") measures whether the actual transaction price was better than the quoted price on-exchange at the time of order entry. The Commission proposes that market participants calculate average E/Q using a share-weighted method. This approach sharply differs from the spread-weighted method that market participants and data vendors typically use to calculate average E/Q today, and may lead to unintended consequences.

In particular, the proposed shared-weighted methodology may incentivize market participants to allocate price improvement to lower priced securities with narrower quoted spreads, including sub-dollar stocks, as doing so will maximize reported E/Q under the Commission's proposed approach. In Appendix A, we detail how the same amount of price improvement (in dollars) can generate very different share-weighted average E/Q numbers depending on the symbols to which it is allocated.

A better method, and the method currently used by market participants and data vendors, is to calculate average E/Q based on spread weighting. A spread-weighted average is tied to the total price improvement delivered in dollars, and is unaffected by how that price improvement is allocated among different symbols *(see Appendix A)*. This provides market participants with a more accurate view of total price improvement, while avoiding distortions.

B. Orders Should Be Categorized By Notional Size

The Commission proposes to categorize orders based on the new round-lot definition in the Market Data Infrastructure ("MDI") rule, with orders grouped into buckets based on the number of round-lots (i.e. 1 to <5 round lots; 5 to <20 round lots; 20 to <50 round lots, etc.).

While we appreciate the desire to distinguish between round-lot orders and odd-lot orders,[9] this is better done through the use of a separate flag. Grouping orders by round-lots means that very different order sizes may end up together, making the data less useful to end investors. For example, with respect to a stock priced at $1, a single round-lot of 100 shares would equal an order size of $100. In turn, with respect to a stock priced at $10,000, a single round-lot of 10 shares would equal an order size of $100,000. Grouping these very different orders together in Rule 605 inhibits meaningful comparison of execution quality.

Grouping orders by notional size would allow for a more accurate comparison of execution quality. This would eliminate the need to adjust for stock prices and order size when analyzing Rule 605 data. Moreover, categories based on notional size incorporate the latest share prices in real-time, unlike categories based on the number of round-lots (which are calculated using the prior month's share price).

C. Price Improvement Should Not Be Measured Against the Best Odd-Lot Price

The Proposal requires price improvement to be calculated based on the price of the best odd-lot quote (an "odd-lot NBBO") at the time of order receipt, in addition to the market-wide NBBO. In contrast to the Commission's assertions,[10] measuring price improvement against an odd-lot NBBO will yield unhelpful and misleading information. The odd-lot NBBO is not a standard benchmark, since the size associated with these quotes will vary greatly as opposed to the actual NBBO, which always represents a round-lot. As a result, to accurately compute metrics, such as the amount of price improvement, the odd-lot NBBO would have to be adjusted to account for size. For example, there is little value in attempting to measure the execution quality of a 500 share order against an odd-lot price for 10 shares. Indeed, elsewhere in this Proposal, the Commission recognizes the importance of accounting for order size in execution quality metrics, but seemingly overlooks that in this section of the Proposal.[11]

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[9] See Proposal at 3891.

[10] Proposal at 3821 ("The Commission believes requiring price improvement statistics relative to the best available displayed price in the market, whether that is the NBBO or the best odd-lot order to buy or sell, would enhance the ability of market participants to evaluate order performance.").

[11] Proposal at 3817-19. *See also* our response to the Commission's Minimum Pricing Increments and Access Fees proposal, where we explain that the Commission's failure to carefully analyze the costs and benefits of proposing a new odd-lot "NBBO" that may be used as a flawed benchmark renders this aspect of the Proposal arbitrary and capricious in violation of Section 25(b)(4) of the Exchange Act.

D. The Commission Should Further Consider How to Accurately Report Execution Quality for Non-Retail Orders Before Requiring Separate SDP Reports

Many wholesale broker-dealers execute immediate-or-cancel ("IOC") orders for non-retail investors (including pension plans, insurance companies, and other asset managers), particularly through the use of a single-dealer platform ("SDP"). At the moment, depending on the structure of the broker-dealer, these IOC orders may be aggregated with retail orders for reporting purposes, even though the execution profile is very different and could negatively skew a wholesale broker-dealer's execution quality metrics. As a result, we support the Commission's proposal to assign IOCs to a separate order type category so that they would no longer be commingled with retail orders. This will be particularly beneficial for retail investors seeking to accurately assess the execution quality delivered by wholesale broker-dealers.

However, the Commission should not require a separate Rule 605 report for a SDP before further considering how to accurately report execution quality for non-retail orders executed on SDPs (and ATSs). Non-retail orders executed off-exchange raise a number of unique issues that the Commission has failed to consider.

First, it is important to clearly define what constitutes a SDP. The Proposal does not specifically define the term "SDP," but instead refers to "any market center that provides a separate routing destination that allows persons to enter orders for execution against the bids and offers of a single dealer."[12] We encourage the Commission to review FINRA Regulatory Notice 18-28, and the comments submitted in response, in order to more precisely define the term "SDP."[13] In particular, the Commission should clarify that a SDP consists of an identifiable electronic trading platform that is owned and operated by a broker-dealer, where such broker-dealer is trading solely for its own account. In order to ensure that the term "SDP" is not over-inclusive, the Commission should focus specifically on the order types used by non-retail investors to interact with SDPs, such as IOCs and fill-or-kill orders ("FOKs"). At the same time, the Commission should ensure that the term "SDP" captures substantially similar trading activities in order to ensure a level playing field. In this regard, the Commission should clarify (i) the circumstances in which a SDP can be considered to be embedded within an ATS (for example, by constituting a separate 'tier' within an ATS that can be specifically targeted by IOC or FOK orders), and (ii) whether SDP activity includes orders received both from a client (whether a broker-dealer or not) and from internal smart order routers.

Second, the Commission should consider whether certain Rule 605 metrics may be unduly impacted by differences in SDP business models, rather than execution quality. For example, a SDP that sends indications of interest ("IOIs") to customers may have materially higher fill rates than a SDP that solely receives blind IOCs.

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[12] Proposal at 3803.

[13] OTC Equity Trading Volume, FINRA Regulatory Notice 18-28 (Sept. 11, 2018) available at: https://www.finra.org/sites/default/files/notice_doc_file_ref/Regulatory-Notice-18-28.pdf. We generally supported this proposal, including requiring SDPs to obtain a separate MPID to report trading activity, and requested FINRA provide additional clarification regarding the proposed SDP definition. *See* Letter from Citadel Securities, available at: https://www.finra.org/sites/default/files/notice_comment_file_ref/18-28_Citadel_comment.pdf.

Third, the Commission should conduct a more holistic review of the Rule 605 reports already produced by ATSs in order to determine whether any additional revisions are warranted in order to accurately report execution quality for non-retail orders. For example, the definition of a "covered order" may need to be amended in order to ensure that the Rule 605 reports are sufficiently comprehensive for non-retail orders.

E. Retail Orders Should Be Clearly Identified

Execution quality metrics (including the summary reports contemplated in the Proposal) would be more informative if Rule 605 differentiated between retail investors and professional customers, as the nature of the order flow (and the resulting execution quality) may be quite different. This would allow retail investors to obtain execution quality statistics for similar orders. We encourage the Commission to engage with market participants to appropriately define a retail order, such as by reference to an order or trade threshold.[14]

F. Realized Spread Should Be Removed

We recommend that the Commission remove the existing realized spread metric as part of updating Rule 605. Realized spread assumes that liquidity providers exit each position in a costless manner at the end of a fixed period, and is therefore highly dependent on the time horizon used to make the calculation.[15] However, the Commission acknowledges in the Proposal that inventory turnover "is not easily observable" and appears to largely guess in recommending that realized spread be calculated at two fixed intervals – 15 seconds and one minute.[16]

While mark-out metrics like realized spread might have limited use in comparing samples of otherwise substantially similar order flow, these metrics become largely useless when attempting to compare different types of order flow or market centers. For example, realized spread cannot be used to accurately compare on-exchange and off-exchange trading. Please refer to Appendix C of our response to the Order Competition Proposal for more detailed examples.

More fundamentally, the Commission's assertion that realized spread can serve as a proxy for liquidity provider profitability[17] has been thoroughly discredited, including by academic research.[18] For example:

[14] We note that the 40 trades/day threshold in the Order Competition proposal appears to be inappropriately high.

[15] Proposal at 3814 ("Selecting an appropriate time horizon to calculate the realized spread is important, as realized spreads vary significantly as the time horizon is changed.").

[16] Proposal at 3854.

[17] Proposal at 3814 ("To the extent realized spreads capture adverse selection costs faced by liquidity providers, they provide a measure of the potential profitability of trading for liquidity providers.").

[18] For more detail, see our response to the Commission's Order Competition proposal (including Appendix C).

- Realized Spread Does Not Consider the Actual Exit Trade.

  Realized spread completely ignores the exit trade, both with respect to (i) timing and (ii) price.

  First, the assumption that liquidity providers exit each position at the end of a fixed period is inconsistent with actual trading practices, where liquidity providers hold positions for varying periods of time depending on market making and hedging strategies and market conditions. Recent academic research has found that using a fixed time horizon can be a source of significant mismeasurement, meaning realized spread can "deviate significantly from true profits."[19]

  Second, realized spread does not consider the price (or effective spread) of the exit trade.[20] We note this methodological flaw disproportionally impacts wholesale broker-dealers, as they have much lower effective spreads than on-exchange liquidity providers.[21]

- Realized Spread Does Not Consider Fixed or Variable Costs. Realized spread does not account for fixed or variable costs, such as trading infrastructure, personnel, exchange memberships, and market data, regulatory, and transaction fees (including fees, rebates, and PFOF).

- Realized Spread Cannot Compare a Large "Parent" Order with Smaller "Child" Orders. Wholesale broker-dealer execution quality data is reported at the "parent" order level. However, exchanges typically receive "child" orders to execute against specific price levels as part of executing an oversized order (whether from a retail or non-retail investor). The lower realized spreads purportedly identified by the Commission for on-exchange executions may actually reflect the higher price impact associated with executing larger orders through smaller "child" slices on-exchange. In the Best Execution Proposal, the Commission acknowledged that "[m]etrics that apply to small order executions may miss how well or poorly the large order traded overall."[22]

For all of the reasons above, realized spread should be removed from Rule 605.

Leaving aside our view that realized spread is not a useful metric for Rule 605, the Commission's proposal to change the fixed time horizon used for calculating realized spread from five minutes to 15 seconds and one minute provides another example as to why Rule 605 should be updated before additional market structure changes are considered. In this Proposal, the Commission concludes that the five minute time horizon used to calculate realized spread is

[19] Yang, Lingyan and Lohr, Ariel, The Profitability of Liquidity Provision (Feb. 13, 2022) at 9, available at: https://ssrn.com/abstract=4033802

[20] *Id.*

[21] For example, the exit trade entered into by a wholesale broker-dealer is likely to include price improvement compared to the prevailing NBBO, reducing any spread captured by the wholesale broker-dealer.

[22] Best Execution Proposal at FN 169.

inappropriate, stating that "current requirements in Rule 605 related to measures of effective and realized spreads may lead to uninformative or incomplete information."[23] There is no explanation as to why these same flawed realized spread statistics are then cited in the Order Competition and Best Execution proposals as justification for upending U.S. equity market structure.

G. All IOC Orders Should Be Identified

The Proposal assigns marketable IOCs to a separate order type category so that they would no longer be commingled with other order types. However, similar treatment is not proposed for non-marketable IOCs. Since IOCs have different execution profiles than other order types, the Commission should include a flag for IOC orders that equally applies across both marketable and non-marketable orders. Including non-marketable IOCs with regular non-marketable limit orders ("NMLOs") would significantly skew reported data.

H. Execution-Time Statistics Should Be Included Only for Market Orders

The Commission should only require execution-time statistics for market orders. Since marketable limit orders (including NMLOs that become marketable) may be partly executed or may exceed the consolidated quote size, it would be difficult to interpret this data without more context and information.

I. The Treatment of Riskless Principal Executions Should Be Clarified

We understand the Commission's desire for wholesale broker-dealers to report riskless principal orders as executed "at another venue," consistent to how agency orders are currently reported. However, we note that the Proposal's suggestion that "execution quality statistics would be more informative to market participants [as a result]" is misleading.[24] The execution quality metrics reported under Rule 605 correctly take into account all orders routed to a wholesale broker-dealer (irrespective of where execution occurs) in order to provide a comprehensive view of the market center's overall execution quality. This would not change under the Proposal.

[23] Proposal at 3853.

[24] Proposal at 3819.

III. Material Improvements to Execution Quality Data

We support several of the proposed improvements to execution quality data because we believe they will be particularly impactful. We discuss these improvements below.

A. Measuring Size Improvement

Rule 605 requires the calculation of price improvement without regard to the size available at the NBBO. Therefore, current execution quality statistics understate price improvement for orders that are filled off-exchange for more shares than are displayed at the NBBO. For example, if a broker-dealer executes a 500-share order to buy at a price that is at or better than the NBO when there are 200 shares displayed at the NBO, the broker-dealer would have provided size improvement for 300 shares (since if the order was filled on-exchange, it could not have been fully executed at the NBO, resulting in a worse all-in price). The estimated value of size improvement to investors is significant. According to a recent study, factoring in size improvement more than doubled the dollar amount of price improvement reported by wholesale broker-dealers.[25]

Including size improvement metrics will provide market participants with important information about an additional dimension of execution quality that is not currently captured by current Rule 605 statistics.[26] This will be particularly beneficial for retail investors seeking to accurately assess execution quality delivered by wholesale broker-dealers.

B. Measuring Odd-Lot Execution Quality

Individual odd-lot orders, particularly in high price stocks, have come to represent a large percentage of executed order volume.[27] Currently, Rule 605 does not require orders of less than 100 shares to be reported. By not capturing these orders, Rule 605 reports are missing information about an important segment of retail order flow. This enhancement will also be particularly beneficial for retail investors seeking to accurately assess execution quality delivered by wholesale broker-dealers.

C. Including NMLOs and Orders Submitted with Stop Prices

Current Rule 605 reports categorize NMLOs as inside-the-quote, at-the-quote, or near-the-quote, and exclude NMLOs that are more than ten cents away from the quote at the time of order receipt. The Proposal eliminates these three categories and replaces them with two new categories: (i) NMLOs that become executable (excluding orders submitted with stop prices and beyond-the-midpoint limit orders) and (ii) beyond-the-midpoint limit orders. Adding these new categories should capture many more orders compared to current Rule 605 reports.

Additionally, the definition of a "covered order" in Rule 605 excludes orders with special handling instructions, including orders submitted with stop prices. Stop orders are likely to be triggered during periods of price volatility. Given the potential for variation across market centers

[25] Battalio study at 5.

[26] Proposal at 3871.

[27] *See, e.g.,* 86 Fed. Reg. 18596 at FN 241.

and broker-dealers, we recommend including stop orders within Rule 605 in order to increase the amount of information made available to investors. However, there are many different types of stop orders. Therefore, rather than attempting to define what constitutes a trigger and its corresponding reference market for purposes of determining whether and how a stop order is included within Rule 605, it would be preferable to simply require that all stop orders that are triggered be included in Rule 605 to the extent that the resulting market or limit order is a covered order.[28]

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We thank the Commission for considering our comments on the Proposal.

Please feel free to call the undersigned with any questions regarding these comments.

Respectfully,

/s/ Stephen John Berger

Managing Director

Global Head of Government & Regulatory Policy

[28] We refer to the FIF letter for more detail.

Appendix A: Impact of Different Weighting Schemes on Aggregate E/Q Results

Impact of Different Weighting Schemes on Aggregate E/Q Results

Example: Aggregation of BUY orders in 2 different stocks

	Shares	Bid	Offer	Midpoint	Quoted Spread	$ Quoted Spread
Order 1	400	$ 20.00	$ 20.02	$ 20.01	$ 0.02	$ 8.00
Order 2	200	$ 50.00	$ 50.06	$ 50.03	$ 0.06	$ 12.00

Scenario A: $4.00 of PI given to First Order (1 penny per share); nothing to Second Order

	Shares	Fill Price	PI/Share	$ PI	Effective Spread	$ Effective Spread	$ Quoted Spread	E/Q	Notional	Aggregate E/Q by Weighting: None	Spread	Share	Notional
Order 1	400	$ 20.010	$ 0.010	$ 4.00	$ 0.0000	$ 0.00	$ 8.00	0.00%	$ 8,004.00				
Order 2	200	$ 50.060	$ -	$ -	$ 0.0600	$ 12.00	$ 12.00	100.00%	$ 10,012.00				
Totals	600			**$ 4.00**		**$ 12.00**	$ 20.00		**$ 18,016.00**	**50.0%**	**60.0%**	**33.3%**	**55.6%**

Scenario B: $2.00 of PI given to each Order (1/2 penny for First Order, 1 penny for Second Order)

	Shares	Fill Price	PI/Share	$ PI	Effective Spread	$ Effective Spread	$ Quoted Spread	E/Q	Notional	Aggregate E/Q by Weighting: None	Spread	Share	Notional
Order 1	400	$ 20.015	$ 0.005	$ 2.00	$ 0.0100	$ 4.00	$ 8.00	50.00%	$ 8,006.00				
Order 2	200	$ 50.050	$ 0.010	$ 2.00	$ 0.0400	$ 8.00	$ 12.00	66.67%	$ 10,010.00				
Totals	600			**$ 4.00**		**$ 12.00**	$ 20.00		**$ 18,016.00**	**58.3%**	**60.0%**	**55.6%**	**59.3%**

Scenario C: $4.00 of PI given to Second Order (2 pennies per share); nothing to First Order

	Shares	Fill Price	PI/Share	$ PI	Effective Spread	$ Effective Spread	$ Quoted Spread	E/Q	Notional	Aggregate E/Q by Weighting: None	Spread	Share	Notional
Order 1	400	$ 20.020	$ -	$ -	$ 0.0200	$ 8.00	$ 8.00	100.00%	$ 8,008.00				
Order 2	200	$ 50.040	$ 0.020	$ 4.00	$ 0.0200	$ 4.00	$ 12.00	33.33%	$ 10,008.00				
Totals	600			**$ 4.00**		**$ 12.00**	$ 20.00		**$ 18,016.00**	**66.7%**	**60.0%**	**77.8%**	**63.0%**
								E/Q Range:		16.7%	0.0%	44.4%	7.4%

Observations:

1) Same Total $PI provided in each case ($4.00)
2) SPREAD-weighting yields the same E/Q in each case (60%)
3) NOTIONAL weighting yields different total E/Q from 55.6% to 63.0%
4) No weighting (just averaging the E/Q per order) yields different total E/Q from 50% to 66.7%
4) SHARE-weighting yields different total E/Q from 33.3% to 77.8%