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March 31, 2023

Securities and Exchange Commission
100 F St. NW
Washington, DC 20549-9303
Rule-comments@sec.gov

Re: Proposed Order Competition Rule
File No. S7-31-22, also S7-32-22, S7-30-22, and S7-29-22

Dear SEC:

- Segmenting retail orders is good.

¹ All opinions are strictly my own and do not necessarily represent those of Georgetown University or anyone else. I am very grateful to Georgetown University for financial support. Over the years I have served as a Visiting Academic Fellow at the NASD (predecessor to FINRA), served on the boards of the EDGX and EDGA stock exchanges, served as Chair of the Nasdaq Economic Advisory Board, and performed consulting work for brokerage firms, stock exchanges, other self-regulatory organizations, market makers, industry associations, and law firms. I am the academic director for the FINRA Certified Regulatory and Compliance Professional (CRCP®) program at Georgetown University. I've also visited over 75 stock and derivative exchanges around the world. As a finance professor, I practice what I preach in terms of diversification and own modest and well-diversified holdings in most public companies, including brokers, asset managers, market makers, and exchanges.

- Even the exchanges don't like the proposed auctions.
- Auctions are complex with dozens of design parameters.
- Auctions can be gamed.
- "Realized spread" is not the right metric to examine.
- Concentration in market making is a function of the economies of scale in market making and are not necessarily bad.

Introduction

The SEC has proposed a major overhaul of the U.S. equity markets. On December 14, 2022, the Commission proposed four major rule changes at the same time, totaling 1,656 pages with 3,301 footnotes. This letter comments on the Order Competition Rule which would mandate flash auctions for some retail orders.

Previously, the Direct Edge Exchange conducted similar flash auctions that gave market participants the ability to provide price improvement to orders before they would execute against the orders in the book. However, Direct Edge was forced to drop this order after SEC pressure in 2011.² Now the SEC is proposing mandating auctions similar to the ones it banned over a decade ago.

Congratulations to the SEC for recognizing that retail orders deserve preferential treatment!

As a retail investor who makes many small trades, I am thrilled that the SEC recognizes that my orders should receive preferential treatment that gives me a better price. This is economically efficient, since my order flow is the epitome of "informationless" trades. My little orders are not going to move the market. They are not part of some mega trade that will move the market. I have no special insight as to where the market is going in the next few milliseconds or the next few millennia. It is very safe for market makers and others to buy from me at the bid (or better) and sell to me at the offer (or better).

Other order flow is much more "toxic." A "child" order of only a few shares may be part of a large institutional "parent" order for a million shares that will move the

² See <https://www.wsj.com/articles/SB10001424052748703409304576166930877474292>

market. Sophisticated traders such as hedge funds and high-speed professional traders know something, or at least they think they do. Their order flow is likely to move the market. Trading is a lot like poker: You don't want to trade with people who know more than you do, because you will lose. Market makers are smart enough to stay away from the sharpshooters who know more than they do, and trade with people like me. They make so much money trading with people like me that they are willing to offer me better prices and even pay brokers for routing order flow in their direction.

As a small retail investor shamelessly talking my own book, I like the fact that my orders can get better treatment than the toxic order flow from more informed investors.³ It is economically efficient as well as fair that investor's transaction costs should be a function of how much their orders move the price: Liquidity providers who take the other side of trades should take the information content of their counterparties into their pricing decisions.

I commend the SEC for showing that it understands this and is willing to establish or allow a two-tier market structure in which retail orders get better prices. Well done!

Well, maybe not so fast....

We may never figure out the best market structure, so leave room for innovation.

There are many opinions on market structure. The Stalinists believe in centralizing all orders into a Central Limit Order Book (CLOB) on the theory that this would concentrate liquidity in one place. The Maoists believe in letting a hundred trading platforms compete on the theory that competition between trading platforms will create the best market.⁴

After many years of study, I now believe that we have not yet found the best solution for market structure, and may never figure it out. Different groups of

³ One could argue that the big institutions with that toxic order flow also trade on behalf of me, which is sometimes true. I mostly hold index funds with low turnover, and they have the ability to do portfolio trades that reduce the information content of their orders and get them better fills. I am grateful to the active managers who bring important information into market prices, but it's OK with me if their transactions costs reflect the information content of their order flow.

⁴ This is a reference to Mao's "Hundred Flowers Campaign" with the slogan "Let a hundred flowers bloom; let a hundred schools of thought contend." See https://en.wikipedia.org/wiki/Hundred_Flowers_Campaign Mao used this campaign, which promised free expression, as a way to identify ideological opponents who were later silenced.

investors prefer different features from a market and may never agree. There is still room for a lot of technological improvement. On an order-by-order basis, getting the best price is important. So is speed, but that is more important to some traders than others. For me, a second is fast enough. For others, 1 millisecond is too slow. Others are concerned about the level of customer service from their brokers and other links in the execution chain. Institutions are very concerned about information leakage that will affect the prices at which they can trade in the future. I don't care who finds out about my little orders and trades.

But there are more than order-by-order considerations— there is the general health of the market infrastructure. Getting the best price when I go to market is important, but I depend on a market ecosystem to be there sometime in the future when I need to sell. This ecosystem includes information providers such as media and sell-side research as well as the direct trading infrastructure of brokers, trading platforms, and settlement institutions.

For this reason, I believe that it is important to create a market structure that is open to innovation and experimentation. The “perfect” market structure today might be not-so-perfect tomorrow. Thus, I shudder at the extremely prescriptive nature of this rule proposal which would ossify our market structure. We need to continue to have a market structure that encourages innovation and competition. Forcing orders into a particular structure, especially one as inflexible and hard to change as one hard wired into SEC rules, will seriously hamper the ability of the markets to innovate and compete.

Even exchanges don't like this proposal. That should tell you something!

When I first saw the proposal, I thought it would be a “win” for the exchanges in their competitive struggle with off-exchange trading platforms. After all, wouldn't they want a rule that basically forces more order flow onto their platforms? The exchanges have lots of experience running auctions, as they run thousands of them every day. However, their response has been, well, less than enthusiastic. I let their comment letters speak for themselves.⁵

The fact that the exchanges that might benefit from some kind of auction don't like this particular proposal shows how badly designed it is.

⁵ See for example, <https://www.sec.gov/comments/s7-32-22/s73222-20161714-330556.pdf> and <https://www.sec.gov/comments/s7-31-22/s73122-20158677-326603.pdf>.

Auctions are extremely complex. It is doubtful that this design is best.

Some of my academic brethren love auctions, and I do too. However, they are not panaceas. They are extremely complex instruments that require literally dozens of design decisions in their implementation. I was part of the design discussions at Nasdaq when they were designing their opening and closing auctions. Some of these design decisions include:

- Who may participate
 - Everyone?
 - Only certain orders or order sizes?
 - Only certain classes of participants?
 - One order at a time or multiple orders?
- Permitted order types
 - Limit, market, imbalance only, trailing, stop, short, etc?
- What cancellations are permitted and when
- What information is displayed
 - Expected clearing price?
 - Top of book?
 - Size of imbalance?
 - Entire book?
 - Nothing?
- Who sees what information
 - No one?
 - Only order submitters?
 - Only certain types of market participants?
 - All who see core data?
 - Only those who pay extra?
- Speed of data feeds
 - Different speeds for different fees?
- When the auctions take place
 - Continuously?
 - Periodically?
 - On demand?
- How long the auction runs for

- Milliseconds, minutes?
- Whether the auction price is determined at a fixed or random time
- Interactions between one auction and other auctions
- Interaction between auction and continuous limit order book
 - On same platform
 - On other platforms under common ownership
 - On competing platforms
- Guardrails/ price limits to prevent clearly erroneous trades
- Price protection such as stopping order at a price
- Priority rules for breaking of ties
- Tick size for orders
- Tick size for resulting prices
- Fees charged

It is highly unlikely that the solons at the SEC will get all of these market design decisions right, even with a public comment period. This is particularly true given the strict ethics rules at the SEC which make it very difficult for SEC people to trade. Our markets are constantly changing, and the market environment now is very different from what it was a year ago. Trading experience from years ago may not reflect the current environment. Please note all of the tweaks that the exchanges have made in their opening and closing auctions in the past few years.

Auctions can be gamed.

Because auctions are “knife edge” events that occur in one moment of time, they are subject to gaming. For example, the proposed auctions are required to last for between 100 and 300 milliseconds, which is an eternity in modern trading. The initiation of an auction will reveal substantial information to the market:

- A retail order has arrived to buy or sell.
- A market maker has decided NOT to fill the order at the midpoint.

This reveals the information that one of the most sophisticated market participants has decided that it is not worth trading with this retail order at the midpoint or better. Other market participants may react and immediately pull their quotes on

other exchanges, thus moving the NBBO. 100 milliseconds are more than enough time to do this. Now that the quote has moved, what price will the order get?

The fade analysis does not reflect what will happen with real auctions.

The SEC discounts the notion that quote fading will be an issue, citing statistics that show that quotes move only 4.6% of the time in the 300 milliseconds after a trade.⁶ This statistic is irrelevant and has no bearing on what would happen with these auctions. What matters is the probability that a quote moves after a sophisticated market maker announces they are not willing to buy from a retail order at the midpoint. The proposal has no empirical basis whatsoever to calculate what the fade rate will be under the proposed auctions.

Auctions occasionally misfire.

Although auctions work most of the time, the occasionally misfire in spectacular ways. Notice that on the day Tesla joined the S&P 500, the official closing auction price was \$20(!) higher than the prices just before and just after the closing auction. We index fund investors got hosed.

Concentration in market making reflects economies of scale. It is not necessarily bad.

The assumption underlying this proposal is that the concentration in market making is somehow a bad thing. This is not necessarily the case. Market making is so concentrated precisely because of the large economies of scale. This follows from the basic economics of market making. When a market maker buys from a seller at the bid, they want to sell to a buyer as quickly as possible. With more order flow, they need to wait less time before the offsetting order arrives. This reduces the risk to the market maker. Furthermore, more order flow means that the market maker will have a more diversified portfolio of positions across different assets. This reduces risk even further.

Thus, the more order flow the market maker gets, the less risk they have. This means that the market maker with a larger market share can quote tighter spreads

⁶ See footnote 178 and page 287 in the proposing release.

because they have less risk. This creates a competitive advantage to a market maker who has higher market share.

Note that many retail brokers that sell their order flow could have chosen to internalize those orders themselves. They have consciously chosen not to internalize. They would do so if it made them more money. They choose to sell their orders rather than internalize because the large market makers can do it more efficiently than the retail brokers can. Some that did internalize, such as Charles Schwab, have exited from the business and now sell their order flow.

Just because market making is concentrated does not mean that investors are necessarily getting bad prices. It does not follow that the proposed steps taken to reduce concentration and increase competition will automatically improve investor outcome. Indeed, it may harm them by reducing the realization of these economies of scale.

Fortunately, even though the market for market making is highly concentrated, it is still very competitive. There are several large players who compete vigorously with each other, and many firms that can enter. If any of the large players attempted to exploit their competitive advantage by offering uncompetitive prices, their competitors would quickly eat their lunch.

The “realized spread” makes no sense as a benchmark of retail market quality.

The proposal relies heavily upon a theoretical “realized spread” as a benchmark for retail market quality.⁷ The realized spread is based on the difference between the price of a transaction and the midpoint of the bid ask spread at some arbitrary time in the future. There is no theoretical logic behind what that arbitrary time is.

The realized spread makes no sense as a measure of execution quality. As a retail investor, I care about what kind of price I can get right now. I have a choice when I trade: I can become a liquidity provider myself and place a nice patient limit order, or I can pay up to cross the spread for immediate execution. If I place a limit order, I have to estimate the probability I will get filled at various price levels, and what will happen if I don’t get filled. If I don’t get filled, the price has run away from me and I will have to pay more to get my order filled. If I choose to

⁷ This is sometimes referred to in the trade as a mark out, referring to the marking to market that may be done after a trade to value a position.

trade right now with a market order, what I care about is the price I get right now, not the price at some arbitrary time later.

The realized spread is sometimes used as a measure of adverse selection, the notion that limit orders only get picked off when the market is moving against the order submitter. In that case, the order submitter who has been picked off by someone else when the market moved would have been better off waiting. Adverse selection may be a concern to a liquidity provider who would rather not get picked off, but it is less of a concern to me as a retail investor. When my limit order gets filled, I rejoice because I got a better price than if I had placed a market order. I may still regret that the market has moved against me, but it would have moved against me just as much if I had placed a market order earlier. It is when my limit order does not get filled that I am sad, because the price has moved away from me and I end up with a worse execution than if I had placed a market order to begin with.

What I care most about is the effective spread, the difference between the price I get from placing a market order and the midpoint of the national best bid and offer (NBBO). What somebody else could theoretically make at some arbitrary time later is totally irrelevant to me as a measure of market quality. The proposal documents repeatedly that market makers provide lower effective spreads to their customers.

Using “realized spread” for “savings” is just wrong.

The proposal makes some optimistic guesses about how this untried auction method would reduce the realized spread, and uses that as a measure of “savings” to retail investors. Again, the realized spread does NOT measure the cost to retail investor like me. What matters to me is the effective spread. The proposal admits that “In particular, marketable orders routed to wholesalers appear to have higher fill rates, lower effective spreads, and lower E/Q ratios.”⁸ However, the proposal then concentrates on some contorted guesstimate of how much the theoretical realized spread might fall, even though it is irrelevant, as a justification for the proposal and to calculate bogus “savings” to investors.

⁸ See page 203 of the proposing release.

The definition of segmented order misses big changes in how investors trade.

With the collapse of commissions, the only cost of trading now is the bid-ask spread, which is usually pretty small. Furthermore, fractional share trading means that one can trade high priced stocks very efficiently. This makes it preferable for a retail investor like me to do direct indexing. This allows one to directly hold all the stocks in an index, fine tune the portfolio, and take advantage of tax-loss harvesting. More and more investors are awakening to the benefits of direct indexing. With direct indexing, I hold small positions in a very large number of stocks. It also means that I sometimes make a very large number of very small trades. These rebalancing trades are about as informationless as one can possibly get.

The savings from tax-loss harvesting are too good to pass up. I expect direct indexing tools to be a standard product of most trading platforms rather soon. They are a direct descendent of current screeners and basket trading products. Brokers and RIAs will be offering still more direct indexing products in the not-too distant future or become obsolete.

However, the proposed definition of segmented orders would exclude many direct indexers. The proposed definition excludes orders from investors with more than an average daily number of 40 NMS trades in any the six preceding calendar months. An investor who initiates a single trade in the Russell 1000 portfolio would have an average daily number of trades of 45.5 in a month with 22 trading days. This would mean that the investor's orders would not be segmented for six months even if they made no further trades.

The Commission should not use the average number of daily trades as a criterion for order segmentation.

The Economic Analysis does no analysis of existing auctions.

The lengthy Economic Analysis goes to great lengths to guesstimate the impact of these auctions on equity pricing. However, it does almost no analysis of existing auctions such as the existing auctions in the options market. If it did, it would see that the transactions costs in those auctions are far higher than in the equity market. It also did not analyze equity auctions in the EU, where many platforms offer various auctions. It did not attempt to analyze the flash auctions previously offered by US exchanges before they were banned by the SEC. Given the huge

expenditure of Commission resources thus far on crafting these proposals, this is a glaring oversight.

The Economic Analysis ignores the combined impact of all four proposals.

The Commission made four proposals on the same day. Unfortunately, the Economic Analysis does not even attempt to explore the combined interactions. In particular, improved best execution rules, improved order transparency, and improvements in tick sizes may achieve the objective of this proposal, improved execution quality for retail investors, without the costs and risks of the major change contemplated with this proposal.

The 1% market share minimum is anti-competitive.

Only “open competition trading centers” with a minimum 1% market share would be permitted to operate auctions. There is little analysis of why this makes sense or what the minimum, if any, should be. Restricting entry will reduce competition, increase fees, and stifle innovation. If the Commission does decide to force the bad idea of an auction proposal through, it should eliminate the market share minimum.

A phased approach to equity market structure makes good sense.

I concur with many of the other comment letters that suggest a phased approach to any market structure changes. Any changes should be phased in carefully one at a time, so there is time to measure the impact. Each change itself should be rolled out in stages with built in controls so that the impact can be accurately determined. If the Commission decides to adopt auctions, they should be voluntary for a length of time to see how attractive they are relative to other methods of achieving price improvement. Implementing multiple changes all at once significantly raises the possibility that unintended consequences will cause market quality to deteriorate instead of improve.

Respectfully submitted,

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