The Bacidore Group

February 13, 2020

Vanessa Countryman
Secretary
Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549-0609

Re: File No. SR-IEX-2019-15 (December 20, 2019)

Dear Ms. Countryman,

The Bacidore Group, LLC appreciates the opportunity to comment on the recent proposal to introduce a new D-Limit order type on the Investors Exchange ("IEX"). The Bacidore Group is an independent firm that provides trading-related consulting and research services to buy-side, sell-side, and financial technology firms.

While in general, we feel the proposed D-Limit order type could reduce limit order trading costs and enhance liquidity on the IEX, we feel that more data is needed to truly understand the implications of using the IEX Crumbling Quote Indicator on lit IEX orders, which themselves would be included in a protected quote. In particular, without more data, it is impossible to know how CQI would behave cross-sectionally, especially for the most volatile stocks. Furthermore, while the introduction of such an order type on a single exchange might have a relatively limited impact, a broader adoption of such order types by other venues could have a profoundly negative impact on market quality, especially when markets are under stress. Therefore, we feel that the Commission should withhold approval.

The IEX D-Limit Proposal
The proposed IEX D-Limit order would apply IEX's Crumbling Quote Indicator (CQI) to lit orders. The CQI uses a sophisticated empirical model that predicts when prices are about to change, effectively replicating the approach used by sophisticated liquidity providers to avoid being "picked off". Specifically, as with their hidden D-peg order, the D-limit order would be re-priced to a less aggressive price whenever the CQI signals a deteriorating quote.[1]

[1] Assuming, of course, the D-Limit is priced such that it is eligible for repricing.

The Pros of D-Limit

The big draw of the D-limit is that it provides limit order traders access to similar tools used by high frequency traders and some broker algorithms, helping to level the playing field. Indeed, one of the key drivers of limit order performance is management of adverse selection, so tools that help mitigate adverse selection should provide meaningful improvements to performance. But one additional aspect of D-Limit that makes it especially effective is that the D-Limit is done at the exchange level natively, whereas HFTs and other low-latency traders must have their signals reside on their own servers. Further, these other traders must pass through the IEX speedbump, whereas the D-Limit responds without delay. The net effect is a sophisticated pricing engine with a speed advantage *that is available to all limit order traders*.

With this in mind, one can't help but compare this mechanism to other proposed changes, such as the EDGA asymmetric speedbump[2]. The IEX D-Limit is like an asymmetric speedbump since it benefits liquidity providers at the expense of liquidity takers. The key difference is that exploiting the benefits of EDGA requires the traders to proactively reprice their own orders in a very short time horizon (milliseconds), a benefit that is generally not useful to many traders. The benefits of the IEX D-Limit is available to *all* traders, without the need for low latency machinery. And as we noted in our discussion of the EDGA asymmetric speedbump, reducing adverse selection risk may actually lead to greater liquidity overall.[3]

The Risks of D-Limit

The biggest question in our opinion is what impact D-Limit would have on IEX quotes of individual stocks. The IEX indicates that the CQI is "on" less than 1% *of the day*, while 24% of the *trades* occur when it is "on". The IEX also notes that much of the trading that occurs when the CQI is on is done by just a few firms. While these figures suggest that CQI is a targeted means of improving limit order execution quality, they provide only an aggregate view of CQI's impact on the market. Use of such high-level, aggregated numbers is generally not overly useful in a marketplace with such broad variation across stocks. The U.S. equity market is characterized by highly liquid and highly illiquid stocks (and everything in between), stocks whose prices rarely move during the day with those whose prices change several times within the same second. Basing decisions on such aggregate numbers may not accurately reflect the impact CQI would have on individual stocks, especially on more volatile ones.

Furthermore, aggregate numbers calculated over "normal" periods are not helpful in understanding how D-limit orders would behave in a high volatility environment. Volatility is a key factor in determining whether CQI is on or off, so understanding how it behaves in volatile markets is critical in understanding just how firm the IEX quote would be in highly volatile

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[2] See SR-CboeEDGA-2019-012 (https://www.sec.gov/rules/sro/cboeedga/2019/34-86168.pdf).

[3] See our blog post on the proposed EdgeA speed bump at https://www.bacidore.com/post/exchange-speed-bumps.

markets. This is of particular importance since D-limit orders would be part of IEX's quote, which is a protected quote disseminated in the SIP feed.

And stepping back, the IEX proposal raises some broader questions about market quality under broad adoption of these tools. The fact that IEX's D-Limit is *available to all* and its CQI logic is *applied uniformly to all* D-Limit orders increases the correlation of liquidity provision across traders. Specifically, since IEX would update *all* the affected D-Limit orders in unison, the IEX quote itself becomes more "fluid" as market prices change. Consider the extreme case where D-Limit is so successful that *all* IEX traders use D-Limits. In such a scenario, the *entire IEX quote* would move once the CQI was on. And if other markets and their participants were to adopt similar order types, a huge chunk of the consolidated quote may fade at the same time, potentially when markets are under stress and liquidity is needed most. While assigning such importance to this issue may be premature, such issues need to be considered upfront since, if the SEC approves the D-Limit order on IEX and the order type becomes widely used, other markets would likely propose similar order types.

Conclusion
The D-Limit order has the potential to reduce limit order costs and enhance execution quality for IEX orders, on average. But its impact on individual stocks and its behavior under market stress is unclear. Without a more detailed analysis, it is unclear whether IEX's liquidity will become more "fleeting" for some stocks, e.g., highly volatile ones, a critical point given IEX's inclusion in the consolidated quote. But more importantly, the approval of this individual order type may open a Pandora's box, as other exchanges introduce similar order types, leading to more and more liquidity "fading" in a correlated manner, an effect which could be most pronounced in times of market stress. Consequently, I believe the IEX D-Limit order should not be approved at this time.

Sincerely,

Jeffrey M. Bacidore, Ph.D.
President
The Bacidore Group, LLC

cc:
The Hon. Jay Clayton, Chairman
The Hon. Robert J. Jackson, Jr., Commissioner

The Hon. Hester M. Peirce, Commissioner
The Hon. Elad L. Roisman, Commissioner
The Hon. Allison Herren Lee, Commissioner