



December 24, 2019

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

Re: Notice of Filing of Proposed Rule Change to Add a New Discretionary Limit Order Type, Release No. 87814, File No. SR-IEX-2019-15 (December 20, 2019)

Dear Ms. Countryman:

Proof Services LLC ("Proof") appreciates the opportunity to comment in support of the above proposed rule change by Investors Exchange LLC ("IEX") to add a new Discretionary Limit order type ("D-Limit").¹ For the purpose of full disclosure, my colleagues at Proof and I used to work at IEX, and as individuals we still hold personal equity stakes in IEX, but Proof itself has no affiliation with IEX. Proof is currently building out an agency institutional US equities execution platform with the hopes of receiving FINRA approval to launch as a broker-dealer in mid-2020.

As proposed, a D-Limit order is a displayed or non-displayed limit order that "will be adjusted to a less-aggressive price during periods of quote instability" as determined by the IEX Signal, a probabilistic short-term alpha signal that identifies moments where the NBBO in a particular stock is likely to imminently change. IEX believes the D-Limit order type will "encourage market makers and other participants, including institutional investors, to provide liquidity" and protect them from being "picked off."

Proof believes the D-Limit order type will provide a valuable service in the US equity market and that it should be approved as proposed. More specifically:

1. Proof believes the D-Limit order type precisely discourages one type of predatory trading behavior, which will in turn promote other positive trading behaviors.
2. Proof believes the D-Limit order type will enable agency brokers and market makers to add displayed liquidity more effectively and experience less adverse selection.
3. Proof believes exchanges should be allowed to offer features that encourage or discourage particular activity.
4. Proof believes the D-Limit order type will not result in "fading liquidity."

¹ <https://www.sec.gov/rules/sro/iex/2019/34-87814.pdf>

Proactive Trading vs. Reactive Trading

In order to delve into the likely impact of the D-Limit order type, we think it is helpful to distinguish between *proactive* and *reactive* trading behaviors.

A proactive strategy makes the decision to trade in a vacuum, independent from any specific recent market event. Other than by extraordinary coincidence, a proactive trading strategy will be the only market participant acting at that very moment. [IEX describes the market as stable 99.98% of the trading day](#)²— this is the likelihood of a proactive strategy placing an order during a stable market.

A reactive trading strategy on the other hand witnesses a market event, such as a new buyer entering orders into the market, and immediately takes action in response. In most cases, multiple participants will react to that same market event, and there will be a race to see who can act first. Almost by definition, reactive traders participate in unstable markets. Aggressive traders will rush to pick off soon-to-be-stale quotes, and the market makers displaying those quotes will rush to get out of the way.

One can think these two strategies as of this as *reactive offense* and *reactive defense*. Of note, in these scenarios, for any given quote, there is only one defensive participant and potentially many aggressors.

Due to reactive trading scenarios being winner-take-all, only an extremely fast market participant can effectively participate in these races on either side. IEX's Signal-based order types allow the resting order to automatically win this race anytime the Signal accurately fires. In other words, these order types, including the proposed D-Limit order type, are protected from aggressive reactive strategies, but notably they are not protected from aggressive proactive strategies. For example, when an agency broker attempts to proactively sweep all quotes in the market, at the time those orders are generated, the market is almost certainly stable and the IEX Signal is off. So long as that agency broker does not leak information prior to its order arriving at IEX, it will have no trouble interacting with D-Limit orders. IEX appears to be of the position that a market maker (or any liquidity adder) should be protected from getting adversely selected by aggressive reactive speed-based traders, but not from getting adversely selected by a large institutional investor sweeping through the book. Proof shares this position, though we acknowledge that there are other reasonable points of view.

Proof believes that adverse selection by aggressive *reactive* traders is a case of unnecessary and harmful disintermediation, and we welcome attempts by exchanges to reduce the incidence of this scenario. When a *proactive* trader adversely selects a market maker, this is a case of genuine new supply or demand entering the market to push it toward the appropriate new equilibrium. Without the proactive trader, nothing would have happened, and the market would have remained stable. When an aggressive *reactive* trader enters a position, the market is already in motion toward a new equilibrium and will already get there on its own. For example, if the

² <https://medium.com/boxes-and-lines/leveling-the-playing-field-for-lit-trading-682dc723cef1>

market is in the process of ticking higher, the aggressive reactive trader buys any shares it can during the transition and likely flips them shortly after the tick. The aggressive reactive trader has used its speed to extract value at the direct expense of the market maker. Without its participation, the market would wind up in exactly the same place. Proof believes this an important distinction, and we appreciate the care with which IEX designed D-Limit to only inhibit this harmful activity.

Proof believes that by inhibiting aggressive reactive strategies, the D-Limit order type will enable market makers and other displayed liquidity adders to incur less adverse selection, which may result in narrower spreads and thicker quotes. Further, as discussed above, Proof believes this order type will not materially reduce the ability for proactive strategies to interact with those quotes. All in all, this seems like an entirely positive development for the market.

D-Limit Reduces Barriers to Entry and Encourages Competition

Proof is of the viewpoint that given their heavier regulatory requirements, [agency brokers cannot compete with the fastest proprietary trading firms on pure speed](#).³ Further, given that speed based trading strategies are winner-take-all, there is little value in being almost as fast — the full penalty of losing the race is borne either way. The only way for agency brokers to be competitive in these scenarios is for exchanges themselves to build protective functionality directly into their trading systems. In fact, a further requirement is that this protective functionality be strictly faster than any participant's ability to pick off the order. For example, without IEX's speed bump, the efficacy of D-Limit would be dramatically reduced, as the very fastest reactive high frequency traders' signals are almost certainly faster than IEX's Signal on an absolute timescale. It is only with the added advantage of a 350us head start that IEX is able to adjust its members' orders in time.

As an aspiring upstart equities broker, Proof applauds IEX for designing order types that reduce the substantial barriers to entry for new market participants and democratize the ability to effectively provide displayed liquidity, particularly at a time when other exchanges are doing the exact opposite: imposing tremendous rents on the industry for high quality market access that make it far more challenging for new entrants to be competitive.

If approved, IEX's D-Limit order type will be the first ever tool to allow an agency broker to post NMS-protected displayed orders without resigning to frequently getting picked off by aggressive reactive high-speed traders. We believe this is a wonderful step in the right direction for the market as a whole, and we hope other exchanges follow suit with similar offerings in the future. Proof would love to be able to utilize an order type like D-Limit in our trading business.

Choosing Winners and Losers

³ <https://medium.com/prooftrading/does-low-latency-matter-on-the-sell-side-ff5437820b4c>

The question at the heart of this debate is whether a national securities exchange should be allowed to promote or deter specific trading behaviors.

Exchanges are required to police for manipulative behavior, so they're already not entirely neutral, but the trading scenario IEX is attacking with this proposal, while arguably predatory in nature, is not in violation of any securities laws.

Proof believes that a market center should generally be granted discretion to design features like D-Limit and the above examples to promote or discourage certain types of interactions, so long as it can sufficiently explain why the change is reasonable and consistent with the protection of investors and the public interest.

Ultimately, we believe exchanges cannot and should not be expected to be truly neutral. Any design decision an exchange makes inevitably caters to certain trading behaviors and not others, whether it be an order type, a pricing scheme, a book priority mechanism, or an ancillary technology service. Maker-taker pricing, for example, broadly favors liquidity providers over liquidity takers. Each exchange proposal should be considered carefully and individually as the implications and side effects of such changes can be complicated and difficult to predict.

Proof believes that IEX's justification for introducing this order type is sufficient; the D-Limit order type has been precisely designed to achieve the worthwhile goal of "reducing adverse selection associated with latency arbitrage." We believe that the potential benefits from the introduction of this order type are substantial and that any potential adverse consequences are limited.

Comparable Features on Other Exchanges

Many other exchange and dark pool order types attempt to achieve the same or similar objectives as the proposed D-Limit order type. For example, Cboe EDGA recently submitted a proposal to impose an asymmetrical 4ms speed bump that only applies to aggressive orders, not passive orders nor cancellations.⁴ This design accomplishes much the same goal as this IEX approach: reducing aggressive reactive trading. In some ways Cboe's proposal is cleaner than IEX's in that it does not rely depend upon a probabilistic model. In other ways, it is clunkier in that Cboe proposes to mark its quote as manual and thus non-firm. Additionally, a 4ms delay is substantially longer than IEX's 350us speed bump— and that may be an unduly amount of time for an institutional order router to hold up orders when trying to access all available liquidity. Other approaches, such as Nasdaq's MELO order type and TSX Alpha's randomized asymmetric delay, seek to protect liquidity adders from all adverse selection (from both reactive and

⁴ <https://www.sec.gov/rules/sro/cboeedga/2019/34-86168.pdf>

proactive counterparties), and while less targeted than IEX's approach, this seems like a reasonable objective as well.⁵

One could imagine a hypothetical scenario where IEX proposed the converse order type, let's call it D-Pick-Off, which would aggressively remove shares anytime the quote was unstable (i.e. that would cause adverse selection). A feature like this probably wouldn't be good for anyone, and natural market forces would probably shift flow away IEX for empowering such behavior. Nevertheless, Proof believes exchanges should be given the benefit of the doubt, but not *carte blanche*, when proposing features that enable or disable specific trading strategies.

Why D-Limit Does Not Promote "Fading Liquidity"

The book *Flash Boys* describes the scenario where, in their previous roles at RBC in 2009, IEX CEO Brad Katsuyama and his team attempt to access displayed quotes on multiple exchanges but see that liquidity "fade" to the detriment of their customers. As a result of the disparate physical locations of the various exchange data centers, shifty high frequency market makers are able to witness Brad's trades on some exchanges and pull their quotes on the other exchanges just in the nick of time to avoid getting run over. The team ultimately responds by staggering its orders to the exchanges such that they all arrive simultaneously, so that there was no opportunity for market makers to react while the orders were in flight. This became the [THOR](#) smart order router, which remains a prominent part of RBC's algorithmic trading offering.⁶ The book portrays the high frequency traders as skirting their duty to provide firm quotes to the market and taking advantage of less technologically proficient counterparties.

On the surface, the D-Limit order proposal may seem hypocritical as it appears that IEX is promoting quote fading. This new order type will pull its displayed quotes out of the prevailing NBBO if and when IEX's probabilistic short-term alpha signal identifies that the market is likely to soon tick. Proof believes however that D-Limit is consistent with the IEX mission to provide a level playing field and empower traditional long-term investors. Institutional agency execution algorithms are by-and-large proactive in nature. They almost always initiate orders during stable markets, so they should have little trouble accessing displayed D-Limit quotes.⁷

⁵ As an aside, Proof does wish the major exchanges took a more genuine stab at addressing these scenarios on their primary platforms, rather than just dipping their toe in the water on their smaller less relevant exchanges, but we are encouraged that they are at least trying something.

⁶ <https://www.rbccm.com/en/expertise/electronic-trading/equities.page>

⁷ Some agency algorithms do incorporate "reactive" tactics, such as a target participation rate algorithm falling behind and then trying to catch up, or even "alpha signals." In our experience, there is a such a dramatic gap in speed between the elite proprietary trading firms and even the relatively fast agency brokers, that by the time these reactive agency tactics are able to act, any favorable opportunities have already been exploited by their faster counterparts. In these cases, there should be little practical difference in attempting to interact with a D-Limit order versus an ordinary order since if the NBBO was already in transition, they would have likely been too late either way.

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Proof does not consider IEX's D-Limit proposal to be hypocritical because it precisely targets aggressive reactive trading strategies while democratizing reactive defense for all displayed orders.

Conclusion

Proof believes that IEX's D-Limit proposal is thoughtful, balanced, and fair. We believe it will precisely inhibit one category of predatory trading behavior while causing minimal disruption to all other activity, and that it will promote liquidity and level the playing field for institutional investors. We believe it will promote competition and reduce barriers to entry for new market participants.

Best,

A handwritten signature in cursive script that reads "Daniel Aisen".

Daniel Aisen
CEO

cc: Jay Clayton, Chairman
Robert J. Jackson Jr., Commissioner
Hester M. Peirce, Commissioner
Elad L. Reisman, Commissioner
Allison Herren Lee, Commissioner