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January 3, 2016

Mr. Brent J. Fields
Secretary
U.S. Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549-1090

Re: Investor's Exchange LLC Form 1 Application (Release No. 34-75925; File No. 10-222)

Dear Mr. Fields:

In 1975, Congress directed the SEC, "through enactment of Section 11A of the Exchange Act, to facilitate the establishment of a national market system to link together the multiple individual markets that trade securities" (SEC, Regulation NMS). A primary goal was to assure investors that "that they are participants in a system which maximizes the opportunities for the most willing seller to meet the most willing buyer."

To implement this directive the SEC instituted Regulation NMS, a centerpiece of which is the Order Protection Rule:

> The Order Protection Rule (Rule 611 under Regulation NMS) establishes intermarket protection against trade-throughs for all NMS stocks. A trade-through occurs when one trading center executes an order at a price that is inferior to the price of a protected quotation, often representing an investor limit order, displayed by another trading center… strong intermarket price protection offers greater assurance, on an order-by-order basis, that investors who submit market orders will receive the best readily available prices for their trades.

To a layperson, the common sense meaning of a National Market System and the Order Protection Rule is that an arriving marketable order (say Order A) should be matched with the best *readily available* price in the market as a whole, before any order that is placed after Order A has made first contact with the market begins to be processed.

Given the large number of trading venues now in operation and the speeds at which communication occurs, it is important to be very clear about what these terms mean. If a marketable order arrives at an exchange, is partially filled, and then routed to another exchange, there will be a small gap in time before the second exchange receives what is left of the order. It is technologically possible for a third party to observe the first trade (either because they are a counterparty to it or have access to the data generated by it) and to act upon this information by sending orders to other exchanges. These may be orders to trade or to cancel, and may arrive at other exchanges before the first order has been fully processed.

Should these new orders, placed after Order A has made first contact with the market, be given priority over Order A in interacting with resting orders at other exchanges? It seems to me that the plain meaning of Congress' directive and the order protection rule says that they should not.

IEX's proposed design prevents this kind of event from taking place by delaying the dissemination of information generated by Order A's first contact with the market until enough time has elapsed for the order to be fully processed. This brings the market closer to the national system envisaged by Congress, and indeed by the SEC itself.

It appears that the following example in a comment letter by Hudson River Associates, while submitted as an objection to the IEX application, actually supports this interpretation:

> Example 3: IEX BD Router – IEX bypasses the POP allowing it beat a member to another exchange
>
> - Member C has an order to buy at 10.00 resting on IEX.
> - IEX has a routable sell order that fully executes Member C's buy interest on IEX.
> - When executed, Member C decides to update its buy order prices on another exchange from 10.00 to 9.99.
> - The POP would delay Member C's execution information by 350 microseconds. As a result, although Member C's buy order on IEX has been executed, it does not know this for at least 350 microseconds.

- Before Member C is informed of its buy order execution, the IEX BD Router sends an order to the other exchange to execute against Member C's buy order at 10.00 on the other exchange.
- Since Member C was not informed of its execution on IEX, its order at 10.00 on the other exchange is executed by the IEX BD Router before Member C can update the price to 9.99.

This example refers to cancellation, but there is nothing to prevent Member C from placing marketable sell orders at 10.00 that trade ahead of the routable order. In either case, liquidity that was "readily available" when the routable sell order made first contact with the market is removed before this order has been fully processed.

What the authors of this letter appear to want is that Member C should be able to place an order (to cancel or trade) after the routable sell order has made first contact with the market, and to have these orders interact with the market before the routable sell order has been fully processed. This kind of activity is currently permitted by the SEC, but to this layperson seems to clearly contradict the spirit if not the letter of Congress' directive.

The design proposed by IEX, by preventing orders from trading out of sequence (measured with respect to first contact with the market) would bring the system closer to that envisaged by Congress. In a true national market system with multiple exchanges, each order would receive a timestamp marking its first contact with the market, and no order would begin to be executed until all orders with earlier timestamps had been fully processed. In making a determination on the IEX application, I would urge the commission to consider whether approval would bring the system closer to this ideal. And indeed, to think further about what other changes to the rules governing market microstructure would also achieve the same goal.

Sincerely,

Rajiv Sethi
Professor of Economics
Barnard College, Columbia University