March 28, 2016

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

Re: Commission Interpretation Regarding Automated Quotations Under Regulation NMS (Release No. 34-77407; File No. S7-03-16)

Dear Mr. Fields,

Thank you for granting the public an opportunity to comment on file no. S7-03-16 regarding the interpretation of "automated quotations" under Reg NMS. I would like to submit my comments on this matter as a member of the general public. I hope that contributing to the pool of ideas (even though I'm sure that others have made similar arguments before me) will help foster an active, thoughtful, and ethical debate regarding our nation's equity market structure (and the structure of all modern, electronic financial markets in general). I also hope that the Commission will act swiftly to improve the safety and soundness of a system that is a critical component of our national infrastructure.

The format of this letter is as follows:

1) I will first address the question regarding the definition of "immediate" as requested in S7-03-16.
2) I will then tie point (1) into some comments regarding the implementation of a single marketplace that is built upon a multiple exchange architecture.
3) Lastly, I will briefly tie points (1) and (2) back to the IEX exchange application debate.

<u>On the Definition of "Immediate"</u>

The Commission specifically asked for comment on the definition of the term "immediate" in the context of defining "automated quotation". As I read it, the definition of "immediate" is quite vague within the Commission's existing language, and it appears that this was (and is) by design. The most telling statement from S7-03-16 is quoted as follows:

> "Rather, the Commission specifically sought to avoid 'specifying a specific time standard that may become obsolete as systems improve over time,' and agreed with commenters that 'the standard should be 'immediate' i.e., a trading center's systems should provide the fastest response possible without any programmed delay.'"[1]

Contrary to the Commission, I believe that it is possible to define a very clear definition of "immediate" in the context of how a marketplace exchange should operate. The proposed definition that follows could be enforced regardless of how advanced technology becomes.

First, let us introduce a few terms for the description that follows:

- Let E represent a marketplace exchange.
- Let X represent an incoming order instruction.
- Let E(0) represent the state of the exchange ***before*** instruction X is executed.
- Let E(1) represent the state of the exchange ***after*** instruction X is executed.

Exchange E's response to incoming order instruction X is defined to be "immediate" if and only if it can be shown that: E(0) + X = E(1). In other words, instruction X (and only X) is what causes the exchange to

---

[1] Page 9 of file no. S7-03-16.

transition from state E(0) to E(1). Put yet another way, exchange E's response to instruction X is deemed "immediate" if the transition from E(0) to E(1) can be fully attributed to the execution of X in a deterministic way.

Note that this definition of "immediate" does not rely on the specification of any sort of minimum or maximum elapsed time interval. In fact, the term "immediate" does not need to be defined on the basis of any measurement of elapsed time at all. In the context of exchange order processing, the definition of "immediate" should be centered around ensuring that the direct relationship between "cause" and "effect" is upheld. An incoming order instruction (the "cause") should produce a completely deterministic change in the exchange's state (the "effect"). It does not matter if the exchange requires one nanosecond or one day to execute a single instruction; all that matters is that the cause and effect relationship between individual order instructions and the exchange's internal state is upheld. "Immediacy" is violated if we cannot determine the single order instruction that was responsible for moving an exchange from one state to the next.

I propose that the Commission consider using this ***causal*** definition of "immediate" in place of the ***elapsed time-dependent*** definition that appears both explicitly and implicitly throughout the regulatory language surrounding this matter.

<u>**On the Concept of a Single Market Using a Multiple-Exchange Architecture**</u>

This section applies the afore mentioned concept of "immediacy" to the multiple exchange architecture that is representative of our current market structure. I will start by making the following assertion:

> Premise: The multiple exchanges that make up our nation's current equity market structure are supposed to ***collectively*** implement a ***single, National Market System*** (NMS).[2]

It is my belief that the original spirit of Reg NMS and the original intent of the SEC was to create a ***single equity marketplace*** to serve the United States while avoiding any concrete statements about the market's actual design.[3] If the Commission agrees with the premise set forth above, then it should follow that today's equity market structure does ***not*** adhere to the initial premise (nor to the original spirit/intent of Reg NMS). We do not have a single national equities trading market today, much less one that adheres to the definition of "immediate" set forth previously.[4]

As the Commission is well aware, today's market is built on top of a network of multiple exchanges and alternative trading venues. Although this extensive network is the result of competitive market forces, I humbly submit that the Commission has failed to ensure that the evolution of market structure remains consistent with the assumed goal of creating a single, national equity marketplace.

Furthermore, if the Commission agrees with the original premise, it stands to reason that:

1) if the multiple exchanges that make up our NMS are here to stay then,
2) these exchanges need to operate in such a way that they present the functionality and behavior of a single market exchange to all market participants.[5]

---

[2] If the Commission disagrees with this premise, it is absolutely critical for the Commission to say so and to be transparent about its stance on this issue. I feel that this single premise is the basis for much of the debate tied to IEX and the select group of high-speed trading tactics that are considered predatory, harmful, and/or illegal.

[3] My understanding is that the Commission believes that competitive market forces will always lead to the most efficient underlying market design.

[4] I would refer the Commission to the many available descriptions of latency arbitrage to highlight this point.

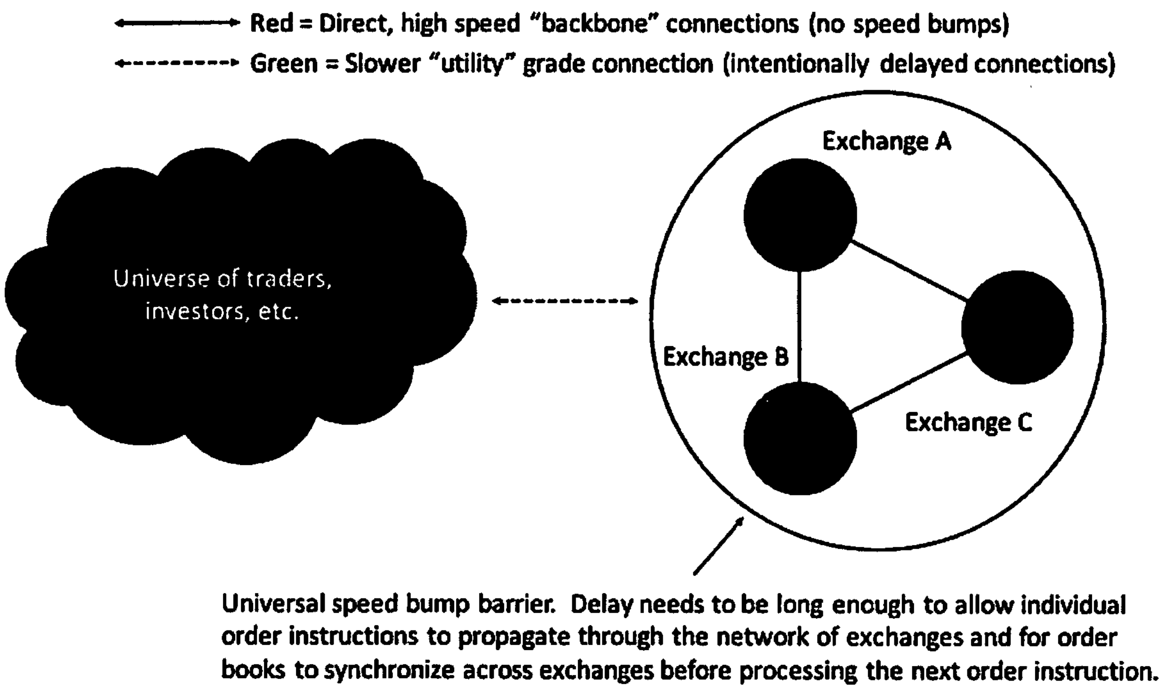
[5] I have not yet seen a convincing argument that shows how we can have a truly ***national*** market if this principle is not upheld.

This brings me to the main point. If we:

1) expect our market to provide "immediate" responses to each participant's order instructions,
2) desire a single/national marketplace for people to trade, and
3) choose to employ a multiple exchange architecture for our national market infrastructure,[6]

then there needs to be a mechanism that unifies the behavior of the individual exchanges in order to achieve the system-wide behavior we desire. As others have stated before (in more eloquent language than mine), built-in latency (i.e. a speed bump) is the mechanism we need in order to ensure that a network of multiple exchanges behaves as a single, national market designed to provide investors/traders with "immediate" responses to their orders in accordance with the fundamental rules of cause and effect and price/time prioritization.

A crude diagram of what I'm thinking about is shown below. It does the not capture the full level of detail I would have liked to include in this letter, but perhaps myself and/or others will be able to add on to the concept in subsequent comments as a collective brainstorming exercise.



How does this relate to IEX?

Finally, I would like to make a simple point tying this discussion back to the IEX debate that prompted S7-03-16. Under current SEC rules, there does not appear to be any requirement or incentive for individual exchanges to uphold a vision of a unified national market as I have mentioned in this letter.

IEX appears to represent the market's most honest attempt yet to work toward the unified market system set forth in the premise above. Given that exchanges are not currently required to work together, I view IEX's speed bump concept as an attempt to push the market system closer to the design crudely

[6] And to be fair, there are of course benefits to having multiple exchange venues underlying a single market system (e.g., redundancy for disaster recovery, system resiliency, etc.).

illustrated in my diagram – a system where anyone can submit an order instruction to the ***national*** market and trust that it will execute with the "immediate" response one expects when interacting with a single marketplace that behaves according to the intuitive notions of causality and price/time prioritization. These are the primary reasons why I support IEX (and I suspect the same is true for many others as well).

Furthermore, beyond the engineering aspects of their model, IEX appears to offer competition along other meaningful dimensions as well such as:

- Transparency and equality in pricing/fees.
- Simplicity of order types.
- Business model more reflective of an exchange operating as a utility/public service, and less as a purely profit-maximizing enterprise.

For the record, I am not affiliated with nor have I been contacted by IEX in any way to promote them. These thoughts are formed on the basis of how a member of the public is witnessing the ongoing IEX debate unfold. IEX appears to be positioned as the best agent for change in an established industry with powerful vested interests.

Thank you for your time and attention regarding this matter. I believe that a sound financial system is as critical to the stability of our society as is any other component of our nation's infrastructure. I urge the Commission to treat these issues with the level of seriousness and urgency that they are due.[7]

Sincerely,

Stacius Sakato

---

[7] I am highly critical of the fact that the Commission is even asking the question of whether or not it should be concerned with market manipulation. This comment put forth in S7-03-16 leaves me at an utter loss for words.