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MARKET STRUCTURE ANALYSIS

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The IEX ~~ATS~~ Exchange: Look before You Leap

Birth of an ATS Superstar

Since its well-publicized launch in October 2013, IEX has leapfrogged established ATSs, rocketing with record speed to a market share behind only UBS ATS and Credit Suisse Crossfinder in the US dark pool space, as reported by FINRA, good for over 10% share of the dark pool market.

IEX's initial success was undoubtedly fueled by the kind of publicity that money can't buy. Its continued steady rise must surely be attributed to something fundamentally valuable about its offering. The crux of IEX's value proposition as an ATS has always been its "communications buffer" that delays incoming and outgoing messages to and from external users by 350 microseconds each way. IEX promotes the view that by insulating its dark pool from fleeting order flow, it provides a safer environment for long-term investors to transact.

IEX ATS's rapid growth has demonstrated that there was demand for innovation in the crowded US equity marketplace. Instinet was an early subscriber and, as the liquidity has grown, has come to value IEX as a material source of liquidity for our clients — especially at the mid-quote.

On To the Big Leagues

Apparently not content with the limited market-share upside of an ATS, IEX has applied to join the ranks of registered exchanges, subject to the rights and responsibilities of the Exchange Act and Reg NMS. At first blush, it may seem that such a move would just be a matter of taking a successful model to a bigger stage. This seems to be the assumption of many of the buy-side commenters on IEX's application. As an agency broker, we wonder if the move to an exchange model will have unintended deleterious effects on the midpoint liquidity we currently source for our clients and whether the "speed bump," if approved, will retain the same value proposition in the context of a Reg NMS governed national exchange.

Skeptical Voices Emerge

Amid the mostly enthusiastic commentary from buy-siders and others, there are some skeptical voices. While coming mostly from competitors, there were important questions raised that many in the trading community, perhaps including IEX itself, may not have fully considered. As we at Instinet weigh the potential impact on our clients, it is important for us to familiarize ourselves with some of the fundamental market-structure issues raised by IEX's exchange application. To that end, we summarize below some of the more skeptical view points that have been advanced by commenters, and some of the responses to those critics from IEX itself.

Details, Details, Details…

Those objecting to IEX's exchange application raise points ranging from the technical and legalistic to matters that go right to the core of US market structure in a Reg NMS world. We'll start out with the nuts-and-bolts stuff and work our way up the conceptual hierarchy to the most searching questions raised by commenters.

Now, the nuts-and-bolts stuff does actually matter. High profile regulatory actions have exposed bad behavior at certain dark pools over the past two years. We agree with the IEX mantra of a fair, simple and transparent market. However, as the New York Stock Exchange has convincingly noted in their comment letter, the transparency hurdle is and should be a LOT higher for registered exchanges than it is for ATSes.

Take IEX's proposal to apply its signature "communications buffer" (aka "Point of Presence" (POP) aka "magic shoe box") to the big stage. NYSE notes no fewer than eight ways that IEX's proposed rules are fuzzy on the workings of the POP:

1. Do all incoming messages, including those to cancel or modify an order, go through the POP?
2. Do all outgoing messages, including order acknowledgement messages, go through the POP?
3. Do IEX quote and trade reports to the SIPs go through the POP?
4. Does quote and trade data disseminated by IEX through its proprietary data feeds go through the POP?
5. Does the incoming market data that IEX receives from other markets, either via direct feeds or the SIP, go through the POP?
6. Are the prices of pegging interest resting on IEX's book (all of which is un-displayed) updated based on away market protected quote changes that go through the POP?
7. Do orders that are sent from the IEX matching engine to its affiliated router, or from IEX's affiliated router to the IEX matching engine or to away markets, go through the POP?
8. Must market participants, including vendors and other exchanges that subscribe to IEX's proprietary market data feeds, connect through the POP?

NYSE opines that, if these basic details (along with others such as the length of IEX's time buffer) are not spelled out in IEX's proposed rules, IEX's application does not meet the standards of transparency expected of an exchange and, as important, these details would be subject to change without the usual rule-filing transparency required of exchanges. In a letter responding to the critical comments, IEX has answered these questions (see discussion below), but we agree that these questions are too fundamental to be left out of the proposed rules themselves.

Citadel put matters bluntly when it said, "At a minimum, IEX should be required to re-file its Form 1 application to remedy the lack of clarity and explanation of some of its most important features, and add this new information to the proposed IEX rules, and not other exhibits that may potentially be amended without Commission approval. The public and the Commission should not have to speculate about material aspects of IEX's market model."

Should Intentionally Delayed Quotes Be Protected?

Reg NMS created a national market system. By design, market centers are all inter-connected. The actions of one exchange affect all the others and, by extension, all of those who access these markets. When the SEC designed Reg NMS it recognized that response times at any one exchange affected all other market entities, so it established a standard of responsiveness in order for a quote to be considered protected from trade-throughs. The SEC simply said that exchange responses must be "immediate." In a world of constantly developing technology, this sort of best-efforts standard was probably reasonable, but the adopting release of the final rule pinned down the standard a little more, saying that "the term 'immediate' precludes any coding of automated systems or other type of intentional device that would delay the action taken with respect to a quotation."

BATS, Citadel, Nasdaq and NYSE have all pointed out that quotes from the proposed IEX exchange do not qualify under that standard for protection in the National Market System. The SEC's language was so specific in 2005 that, without subsequent clarification, we think it will be difficult for the SEC to come to any other conclusion.

Stale Protected Quotes

Let's say the SEC decides that IEX's quotes are subject to trade-through protection. We think that there would be a number of unintended consequences that investors and traders should understand.

- Stale quotes from IEX will deprive orders at other markets of order protection even though those orders may be the most aggressive orders actually available.
- If an order sweeps the market, taking out a protected quote at IEX along the way, the delay in reporting the change on IEX's order book can give the illusion of a crossed or locked market.
- Incidence of genuinely locked or crossed quotes would also increase as other markets would be prone to locking or crossing quotes entered but not yet displayed on IEX.
- The flip side is also true: displayed but no longer valid quotes on IEX would prevent other markets from displaying quotes that would appear to lock or cross these no longer valid quotes.

Stale NBBOs and Latency Arbitrage

Stale protected quotes mean stale NBBOs. Stale NBBOs will inevitably distort the execution prices of mid-point fills on other markets even under the most innocent of circumstances. In fact, as Citadel has pointed out, the system contemplated by IEX is an open invitation to latency arbitrage:

The IEX Access Delay would also cause the execution of trades and re-pricing of pegged orders on other venues at prices that price match stale IEX prices when IEX is at the NBBO. For example, when IEX is one of several markets quoting at the NBBO, sophisticated market participants can take advantage of the IEX Access Delay. They can do so, for example, by simultaneously sending orders to sweep all NBBO quotes and then execute as many shares as possible on other venues that match the NBBO, knowing that the NBBO will appear to remain constant for at least 700 microseconds due to the IEX Access Delay.

It actually gets even uglier than that. If, as IEX has been saying recently, their order-routing broker-dealer will not be subject to access delays, there is serious potential for their order router—intentionally or not—to interact with mid-quote liquidity at other exchanges that it "knows" is being artificially influenced by IEX's own delayed quotes.

… But Not on IEX Itself

IEX does not intend to apply its speed bump when pricing and matching internal pegged orders using the non-delayed direct feeds of other exchanges. SEC approval of this sort of informational advantage in routing and pricing pegged orders would likely induce other exchanges to follow suit. Moreover, this policy advantages dark orders relative to lit, likely facilitating a registered exchange to push liquidity towards the dark.

Citadel has gone so far as to note that "IEX's structure suggests that IEX's real aim is to create a dark pool on a lit venue to provide itself with regulatory immunity and other benefits afforded to national securities exchanges." NYSE came to a similar conclusion, observing, "Market participants are unlikely to be willing to send orders for display on IEX when such orders would have none of the advantages of the dark, pegged orders on IEX. Accordingly, NYSE believes that it is likely that IEX's order book would be composed primarily, or entirely, of these dark, pegged orders and would not be performing one of the central functions of a registered exchange, which is to foster the price discovery process through display of orders."

IEX Answers the Critics

To their very considerable credit, IEX has issued a 19-page response to the criticisms summarized above. While the added clarity certainly helps, in a sense, it doesn't really count until the added details make it into proposed rules filed with the SEC. If anything, some of the new details supplied by IEX illustrate just how far we think IEX needs to go in fleshing out its rule filing.

The POP

Crucially, IEX went some distance in answering the eight questions posed by NYSE in its letter. They wrote: “All incoming orders to the Exchange will go through the POP. Likewise, any report of a transaction or other system message back to a user, including through IEX’s proprietary data feed, must traverse the same length of optical fiber before it is received. However, outbound transaction and quote messages do not traverse the POP before they are sent to a securities information processor (“SIP”). … Orders routed to away trading centers do not traverse the POP. Reports resulting from routed orders do not traverse the POP when received by the Exchange, but do so when they are communicated to members.”

One of the biggest surprises to us was that output to the SIPs will not be delayed. This is an example of the kind of revelation that ought not to be a surprise at this point in the application process, though. IEX acknowledged as much in its response letter, where they committed themselves to amending their application with further details on the operation of the POP.

While we await the incorporation of these details into a rule filing, let’s take NYSE’s list of questions and provide a crib-sheet of our understanding of IEX’s current stance on the working of its POP:

1. Do all incoming messages, including those to cancel or modify an order, go through the POP?
   Yes
2. Do all outgoing messages, including order acknowledgement messages, go through the POP?
   Yes
3. Do IEX quote and trade reports to the SIPs go through the POP?
   No
4. Does quote and trade data disseminated by IEX through its proprietary data feeds go through the POP?
   Yes
5. Does the incoming market data that IEX receives from other markets, either via direct feeds or the SIP, go through the POP?
   No
6. Are the prices of pegging interest resting on IEX’s book (all of which is un-displayed) updated based on away market protected quote changes that go through the POP?
   No
7. Do orders that are sent from the IEX matching engine to its affiliated router, or from IEX’s affiliated router to the IEX matching engine or to away markets, go through the POP?
   No
8. Must market participants, including vendors and other exchanges that subscribe to IEX’s proprietary market data feeds, connect through the POP?
   Yes

Should Delayed Quotes Be Protected?

From IEX's point of view, the comments challenging whether quotes from their exchange should be protected against trade-throughs must be the most concerning. In its rebuttal letter, IEX argues that its speed bump is qualitatively no different from latencies already existing in the markets. Their response seizes on BATS' own observation that access times to some existing exchanges exceed those deliberately imposed by IEX. For its part, BATS asked that the SEC provide clear standards regarding what constitutes an "automated quote" these days. Elsewhere in its response, IEX relies heavily on its newly-announced plans to stream non-delayed data to the SIPs to counter some of the arguments about the knock-on effects of stale data. Frankly, we found these arguments a little confusing, coming from people who not long ago were warning against the use of SIPs by exchanges and dark pools.

IEX's Order Router

The letter also went some way toward clarifying the role of IEX's routing broker-dealer, IEX Services (IEXS), saying "IEXS never receives a view of the Exchange's NBBO nor does it receive any real-time market data from the Exchange. In essence, then, when IEXS receives routing instructions from the Exchange, it "knows" the number of shares to route and the venue to which it is routing, and not any information about any executions of a related parent order that may have occurred on the Exchange."

Unsaid in the letter, is that the router "knows" that it is routing out of IEX. That is valuable information in its own right, as IEXS has a minimum 350 microsecond jump on any other exchange when deciding, passively or actively, to remove IEX liquidity.

Neither this nor any other statement in the letter appears to put to rest Citadel's concerns about the router exploiting stale prices elsewhere. In fact, short of subjecting the router to the speed bump, it's hard to see how they can avoid this without imposing stringent—and so-far unspecified—order-placement rules on their router.

Again, in their letter, IEX committed to filing an amendment to its application that will provide more detail on the operation of their routing broker-dealer.

Conclusion

Clearly converting IEX to an exchange involves more than applying their novel ATS business model to a broader market.

As an ATS, IEX delivers substantive mid-point liquidity to the market. As a dark pool, IEX was able to fill an important niche without creating what economists call "negative externalities," negative effects on others. By proposing to take its ATS business model, almost completely unaltered, to the national market system, IEX will create externalities that affect all market participants. As argued in some of the comment letters, those effects need to be thoughtfully considered and addressed by IEX or the SEC.

Barring significant changes to IEX's application, it may be the case that Instinet's clients would be better served by IEX in its present form rather than as an exchange. There may be ways IEX could alter its business model to play a constructive role in the exchange space, but it will take more thought and disclosure to get there.

The IEX exchange application raises some truly fascinating and fundamental questions (e.g., what constitutes an automated quote?), and we hope that this brief document has helped you to appreciate some of the complexities of a topic that is important to Instinet, its clients and the future of US capital markets.