December 29, 2023

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

Re: File No. SR-PHLX-2023-040

Dear Ms. Countryman:

Happy New Year and thank you for the chance to comment on Nasdaq PHLX, LLC's ("Nasdaq PHLX") proposal to introduce "Contra Midpoint Only" and "Contra Midpoint Only with Post-Only" order types (collectively "CMO"). Nasdaq, Inc. ("Nasdaq") submitted a letter about the proposal on November 2, 2023 ("Letter") to respond to several critical comments on the CMO.

I'll begin by following the Letter's sequence of topics.

Precedents

Nasdaq writes on page one of its Letter that there is "ample precedent for order types like CMO."

Its first example is a minimum quantity order modifier, of which Nasdaq says "minimum quantity orders *also* enable users to avoid trading with incoming orders when they are *too small*." (Emphasis added.) As I understand it the point of the CMO is to avoid trading with incoming orders when those incoming orders are too big, and in standard usage *too big* means the opposite of *too small*. Exactly how minimum quantity orders are ample precedent for the CMO, then, is a puzzle. I'll go out on a limb and imagine Nasdaq's point is that minimum quantity orders also segment order flow based on order quantities, but if that's what Nasdaq means it should say so. Then Nasdaq should try to convince the reader that *too big* has something meaningful in common with *too small*. It doesn't. More on this later.

Nasdaq's second example includes the IEX D-Limit and D-Peg order types. These order types rely on IEX's crumbling quote indicator ("CQI"), a feature which suggests when market prices might move. The CQI is calculated from publicly available market data, any participant can calculate it in real-time for themselves, and the CQI doesn't leak any information about IEX's own order book. All these materially distinguish IEX's order types from the CMO. For example, a participant can calculate that the CQI might turn on and withhold sending an order to IEX until conditions stabilize. But participants will have no idea if a CMO is in the book and whether their order will trade with or bypass it. Another material difference is that according to IEX the CQI is turned on for tiny fractions of the day; CMOs can rest in Nasdaq PHLX's book all day long. Finally, IEX's CQI doesn't redirect incoming order flow based on order prices, quantities, participant types, or any other characteristic of that flow. CMO does.

Next, Nasdaq points to a NYSE Arca order type from 2012 called the P[assive] L[iquidity] Select Order ("PL Select Order" or "PL Select"), and as precedent the PL Select Order seems more on topic than Nasdaq's other examples. Like the CMO, the PL Select Order had a *too big* element. Orders larger than a resting PL Select would bypass the PL Select.

The SEC approved the order type on September 5, 2012. Nasdaq doesn't mention, however, that on September 4, 2012 - and apparently too late to enter into the SEC's deliberations - a very prominent buy-side firm submitted a harshly critical comment letter opposing PL Select (see SR-NYSEArca-2012-48). Among much else T. Rowe Price wrote:

> It is unclear to us what value this order type provides with respect to the price discovery process. It is also difficult to understand the benefits of excluding this order type from price and time priority. In light of these matters, we are of the view that this proposed amendment would not contribute to increased market depth and liquidity. We believe that restrictions on PL Select

Orders may particularly disadvantage institutional order flow that represents actual trading interest. Conversely, the firm posting the PL Select order, which only wants to buy stock under certain conditions, is advantaged by potentially identifying larger incoming institutional orders and possibly choosing to not trade the original order or attempting to trade ahead of such order....Under the principles of fair access, exchanges should be discouraged from enabling firms posting orders to select the type of contra-side liquidity in which they want to interact. These order types could be misused to gather market color or information unfairly in addition to the trading disadvantages experienced by institutional investors....We strongly believe that this order type is a disincentive to institutional order flow.

T. Rowe Price concluded by saying "We believe that this and similar other proposals unnecessarily segment clients to the detriment of long term investors and erode confidence in a fair and orderly marketplace."

Pointing to an unintended consequence in how PL Select interacted with another order type, NYSE Arca dropped the *too big* element of PL Select just weeks after it went into production. Even as it dropped that element NYSE Arca maintained it was proper, but we don't know if T. Rowe Price or other firms lobbied the SEC or NYSE Arca and hastened the end. In all, despite Nasdaq pointing to PL Select as precedent, *too big* is far from settled. An obviously controversial initiative an exchange quickly reversed is not firm ground.

Of these three so-called precedents, the first is absurd, the second is plainly distinguishable, and the third is not settled.

Too Big and Too Small

A *too big* attribute punishes larger orders. T. Rowe Price wrote it believed that element of NYSE Arca's PL Select Order was "a disincentive to institutional order flow" and "would not contribute to increased market depth and liquidity." A small order will trade with a CMO and get the midpoint. Any order even just one share bigger bypasses the CMO, gets a worse price, and leaks useful information to the CMO participant. The marketplace will quickly learn to reduce average order sizes, leading to wider and thinner quotes.

Too big is in no way analogous to *too small*. I can't see how a participant with a minimum size order gets any useful information advantage from seeing an execution bypass its order. And if anything a minimum size attribute incents larger order sizes and aligns with public policy to encourage liquidity and quote competition. We can even think of a minimum size attribute as kin to lot sizes, similarly encouraging liquidity and competition.

Leakage

Themis, IEX, and the FIA PTG are right that the CMO will facilitate information leakage. In its September 28, 2023 letter IEX shows exactly how the CMO facilitates information leakage:

> More fundamentally, we believe that CMO would still provide ample opportunities for information leakage. In particular, this can occur by a user's ability to detect the presence of a large order by observing executions on the exchange while the CMO order is on the order book. As an example: Assume that a CMO to buy 100 shares is resting at the Midpoint, when the NBBO for that stock is at $10.00-$11.00. If the exchange reports an execution, to which the user is not a party, for 100 shares at $10.00, the CMO user can deduce that an order in that symbol larger than its own has arrived (otherwise, it would have traded with the order). It can also compare the size of the execution to the size of its CMO order to determine that the order has a remaining size that has not been executed on the exchange. Further, the user will receive this information as quickly as it could have received a cancelation message. And, most important, it is information that no other participant is in a position to have (other than possibly another CMO user with an order in the same symbol at the same time).

The kind and quality of that information leakage can escalate depending on incoming order flow characteristics and how CMO works. As IEX showed, the simplest case of information leakage is when a marketable limit order bigger than the CMO arrives and bypasses it. But how does CMO handle reserve orders? Filing text examples show only "Non-Displayed Order" behavior. Nasdaq PHLX Rule 3301A(b)(3)(A) defines "Non-Displayed Order" as an "Order Type that is not displayed to other Participants." Rule 3307(e) defines displayed order reserve quantities as "Non-Displayed Interest." The filing and Letter don't use that term and don't include reserve order examples.

Anyway, let's step through an example of what I believe might happen with a marketable reserve order priced at the far side of the NBBO:

> 1) Nasdaq PHLX is alone at the inside with $10 bid, $11 offered, and 300 shares on both sides. A CMO buy for 500 shares is also in the book at the midpoint, $10.50;
>
> 2) A marketable sell reserve order of 1,500 shares at $10 arrives with a 100 share display size;
>
> 3) If the incoming sell reserve order bypasses the CMO because its Non-Displayed Interest is *too big* and priced at the far side of the NBBO, it trades only with the displayed bid. Everyone will see a 300 share trade go off at $10. At that instant the CMO participant alone knows a sell order of more than 500 shares traded against the bid;
>
> 4) If Nasdaq PHLX now updates the offer to $10 and 100 shares, the display price and size of the incoming sell reserve, the CMO participant - and only the CMO participant - can infer not only that the incoming sell order had more than 500 shares but also that it's a sell reserve order displaying 100 shares at $10, with more size in reserve. The CMO participant can infer it's a sell reserve order because if the incoming sell was a limit order the new offer would show at least 200 shares and not just 100 shares. That's because (a) any sell limit order had to be larger than 500 shares to bypass the CMO, (b) a sell limit order would have decremented by 300 shares when it traded with the bid, and then (c) at least 200 shares remaining would have posted as the new best offer at $10 instead of the 100 shares that's now quoted.

In other words, the difference between the CMO size and a new quote can signal to the CMO participant that a reserve order bypassed the CMO and is resting in the book.

Now let's step through what might happen with a marketable discretionary reserve order:

> 1) Begin again with Nasdaq PHLX alone at the inside at $10 x $11, 300 shares on both sides, and a CMO buy for 500 shares in the book at the midpoint, $10.50;
>
> 2) A sell discretionary reserve order of 1,500 shares at $10.25 arrives with discretion to $10.00 and a display size of 100 shares;
>
> 3) The incoming sell discretionary reserve bypasses the CMO because its Non-Displayed Interest is *too big* and priced at the far side of the NBBO, and trades only with the displayed bid. Everyone will see 300 shares trade at $10. At that instant the CMO participant alone knows a sell order of more than 500 shares traded against the bid;
>
> 4) If Nasdaq PHLX updates the offer to $10.25 and 100 shares, the displayed price and size of the incoming sell discretionary reserve order, the CMO participant - and only the CMO participant - can infer not only that the incoming sell order had more than 500 shares but also that it's a reserve order displaying 100 shares with more size in reserve (for the same reasons discussed above), and with a display price of $10.25 and a discretionary price to at least $10.

With this example the difference between the CMO size and a new quote size, along with certain price levels after a trade, can signal to a CMO participant that a discretionary reserve order bypassed the CMO and is now resting in the book.

Finally, it's not clear to me how reserve orders are handled when they aren't priced at the far side of the NBBO:

> 1) Nasdaq PHLX is alone at the inside with $10 bid, $11 offered, and 300 shares on both sides. A CMO buy for 500 shares is also in the book at the midpoint, $10.50;

> 2) A sell reserve order of 1,500 shares at $10.40 arrives with a 100 share display size. Does the sell reserve bypass or trade with the CMO before posting?

In any event, on my read of what Nasdaq and Nasdaq PHLX have described, these scenarios seem possible. Nasdaq can clarify.

Example 2

The second of the two examples Nasdaq PHLX included in its filing says the NBBO is $10 x $11 but doesn't indicate the state of Nasdaq PHLX's own book (see page 6). It seems there is no resting interest at or better than the NBBO but for clarity the example should say so.

The example starts with Participant A entering a new CMO to buy 100 shares. The CMO is priced at $10.50, the midpoint of the $10 x $11 NBBO. Next, Participant B enters a Non-Displayed Order to sell 200 shares at $10. Participant B's order bypasses the original CMO at $10.50 but later executes with a new instance of the CMO at $10. (To correct a filing error, Nasdaq's Letter indicates that the new CMO is priced at $10.50 and is price improved to $10 when it trades with Participant B's order.)

Based on this example, the proposed rule text should be clarified. The rule text says "*Immediately* after the System removes the CMO because of crossing contra-side interest, then the System will reenter the Order automatically as a new CMO." (Emphasis added.) As I understand the sequence of events in this example, Participant B's order arrives, the CMO is removed, Participant B's order is processed (where it might trade with any resting interest) and booked, and only then is the new CMO created. "*Immediately* after the System removes the CMO" is misleading. Quite a bit can happen between the CMO's removal and resubmission.

Sincerely,

R. T. Leuchtkafer