



May 28, 2020

Ms. Vanessa Countryman
Secretary
U.S. Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549-0609

Re: Market Data Infrastructure; Release No. 34-88216; File No. S7-03-20

Dear Ms. Countryman:

Investors Exchange LLC (“IEX”) is pleased to comment strongly in support of the proposal (“Market Infrastructure Proposal”)¹ by the Securities and Exchange Commission (“SEC” or “Commission”) to update the current outmoded system for collecting and disseminating consolidated market data, which is presently done through securities information processors (“SIPs”) that are either a primary listing exchange or affiliated with such an exchange and act as monopoly providers of such data. We also commend the Commission for its recent order requiring the self-regulatory organizations (“SROs”) to submit a new, single national market system plan that will substantially reduce conflicts in the governance of the existing plans and expand participation by non-SRO stakeholders.² We agree with Chairman Clayton that “we currently have what can be generally described as a tiered system of market data access in the U.S. equity markets.”³ We believe that significant reform in all the related areas – governance, the content of consolidated data, and the means for collecting and disseminating it – is vital to creating a better balance in participants’ access to market data and advancing the goal of a national market system in the context of today’s markets.

Introduction and Background

There are two main parts to the Market Infrastructure Proposal. The first part changes or adds various definitions in Regulation NMS to substantially increase the type and amount of data classified as consolidated market data, including certain depth of book data from each exchange, auction data, and certain regulatory and administrative messages. Consolidated data would also incorporate a new tiered definition of round lot to increase the amount of information published about quotes in smaller size.

The second part of the proposal would replace the current exclusive SIPs with a decentralized competing consolidator model. SROs would be required to provide all data necessary for competing consolidators to generate and distribute consolidated market data. Competing consolidators, which could include the existing SIPs, could get this data through whatever means the exchanges use to send their proprietary data, and fees would need to be approved under fee schedules set by the national market system plan. Consolidators would need to register with the SEC and would be subject to basic disclosure and performance standards. Finally, individual brokers could act as “self-aggregators” and consolidate data

¹ See Securities Exchange Act Release No. 88216 (February 14, 2020), 85 FR 16726 (March 24, 2020) (“Proposing Release”).

² See Securities Exchange Act Release No. 88827 (May 6, 2020), 85 FR 28702 (May 13, 2020) (“New Plan Order”).

³ Chairman Jay Clayton, “Statement on Order to Modernize the Governance Structure of National Market System Plans for Equity Market Data” (May 6, 2020), avail. at <https://www.sec.gov/news/public-statement/statement-clayton-nms-governance-2020-05-06>.

they obtain from the exchanges directly, but they could not redistribute this consolidated data to others without registering as competing consolidators themselves.

As the Commission noted in the Proposing Release, the system for providing consolidated market data to the public is a fundamental component of the Congressional mandate for the Commission to facilitate the creation of a national market system.⁴ However, the rules governing this system have not been significantly updated since the late 1970s.⁵ These are some of the key relevant changes that have occurred in just the last 20 years:

- A change from a trading environment that was largely manual on some exchanges to one that is almost wholly electronic, with an emphasis on the need to use latency-sensitive trading tools to obtain the best prices and satisfy best execution responsibilities.
- The change in exchange business models from industry-owned cooperatives to publicly-traded companies.
- The change from wider minimum trading price increments to the requirement to trade in decimals for most stocks.
- The change from an environment in which quotes and trades were largely defined by 100 share round lot sizes, to one in which a large and increasing share of trading and quoting occurs in amounts of fewer than 100 shares.
- An increasing proportion of market volume occurring during opening and closing auctions.
- The increasing importance to market participants of exchange proprietary data feeds, along with an increasing reliance by many exchanges on revenues from proprietary data and connectivity products.

As a result, the content of consolidated market data and the means for collecting and disseminating it have become so outdated as to be anachronistic. IEX is an exchange that does not charge for its own market data and believes that overall market efficiency and fairness will be served by the broader availability of comprehensive market data that is useful for a wide spectrum of investors, brokers, traders, academics, and the public at large. We support the Market Infrastructure Proposal because it will update the content of “core data” to better reflect the information needed to participate in today’s markets, and because it will replace an outdated and conflicted monopoly system to deliver that data with one that is competitive and better able to adapt to future changes and investors’ needs.

We also note that the Market Infrastructure Proposal is built on years of study of the drawbacks of the current system and years of evaluating alternatives, including a competing consolidator model. In fact, such a competing consolidator model was recommended by an SEC Advisory Committee on Market Information in 2001 and was considered at the time of adoption of Regulation NMS. As the Commission noted in the Proposing Release, this recommendation was not followed at the time, in part based on concerns that such a model could make purchase of data from all exchange feeds mandatory, leaving little room for competitive forces to affect fee levels.⁶ In fact, the current system effectively requires participants to pay for proprietary data from every exchange group, and the lack of competition to provide

⁴ Proposing Release, 85 FR at 16727-8.

⁵ Id.

⁶ Id. at 16772.

consolidated data leaves no room for market forces to constrain prices for that data. In contrast, the Market Infrastructure Proposal would constrain costs for consolidated market data by limiting the fees charged to consolidators to those adopted under an approved fee schedule, and it would allow competition among consolidators, disseminating better and faster core data, to help constrain market data costs in general.

Concerns with the current SIP model were voiced by a wide spectrum of participants at the SEC's 2018 Roundtable on Market Data and Market Access ("Market Data Roundtable")⁷, and these discussions and related public comments explained the need to expand the content of consolidated data and to move to a more competitive model.⁸ A competing consolidator model was also endorsed by the Treasury Department in a 2017 report.⁹

In light of this long history, the Commission has ample basis and reason to act now to update this antiquated system to better serve the interests of all market participants. The underlying problems with the current system are obvious and acknowledged by virtually all participants other than the exchanges that benefit from it, and reform proposals have been debated for many years. It is time to move forward.

We now turn to the specific aspects of the proposal.

Comments on Individual Aspects of the Proposal

Elements of Consolidated Market Data

Round Lots and Odd Lots

The Market Infrastructure Proposal would create a new definition of "round lot", divided in five tiers, based on the average closing price for each security on the primary listing exchanges for the previous calendar month. The proposed tiers range from a 100-share round lot for securities with a price of \$50.00 or less per share down to a 1-share round lot for securities with a price more than \$1,000.00 per share.

Presently, the application of various aspects of Regulation NMS varies depending on the definition of round lot, which is defined separately in each of the SROs' rules, rather than using a common standard under SEC rules. SRO rules define a round lot as equal to 100 shares for almost all securities, based on a long-standing convention from a time when quotes and trades were largely oriented around units of 100 shares. As the Commission noted in the Proposing Release, the 100-share convention makes much less sense in a trading environment in which many securities, particularly those with higher per-share prices,

⁷ Transcripts and comment file avail. at <https://www.sec.gov/spotlight/equity-market-structure-roundtables>.

⁸ See, e.g., *Id.*, Transcript of October 26, 2018, Statements of Douglas A. Cifu, CEO, Virtu Financial Inc., at 26-29, 57-60, 62-64; Statements of Mehmet Kinak, Global Head of Systematic Trading and Market Structure, T. Rowe Price Group, at 43-50, 65-67; Statements of Bradley Katsuyama, CEO, Investors Exchange LLC, at 36-43; Statements of Hal Scott, Emeritus Professor of Harvard Law School and Director, Center for Capital Markets Competitiveness, at 49-50, 66-67; Letter from John Ramsay, Chief Market Policy Officer, IEX, to Vanessa Countryman, Secretary, SEC, dated September 24, 2019.

⁹ U.S. Department of the Treasury, A Financial System that Creates Economic Opportunities—Capital Markets (October 2, 2017), 64, avail. at <https://www.treasury.gov/press-center/press-releases/Documents/A-Financial-System-Capital-Markets-FINAL-FINAL.pdf>.

typically trade in smaller share increments, resulting in a substantial amount of trading interest that is invisible on the SIPs.

IEX supports this aspect of the proposal because we believe it appropriately balances the interest of making the round lot definition less arbitrary and more comparable across securities, on the one hand, and the interest of relative clarity and simplicity, on the other. Each round lot tier above the \$50 price level would represent a minimum notional value of \$1,000, resulting in relatively comparable treatment across securities, regardless of per share price. At the same time, we believe that this system will allow investors of all types and their brokers readily to ascertain the round lot in effect for each security.

We agree with the approach to define this concept in SEC rules, rather than leaving it to potentially inconsistent treatment by SRO rules. Given the importance of this concept to various aspects of Regulation NMS, we agree that it is appropriate for the SEC to establish a common definition across markets.

We also agree that the ability to aggregate odd lots across price levels is critical, given that the proposal would not require additional disclosure of odd lot quotes, as discussed below. This aspect of the proposal will ensure that core data reflects, for each exchange, a round lot price that incorporates odd lot quotes to a meaningful extent.

The NBBO and Aggregation of Odd Lots

Under the proposal, the national best bid and offer (“NBBO”) would be defined based on the new round lot sizes as the best bid and offer for a security that is calculated and disseminated by a competing consolidator or calculated by a self-aggregator. Competing consolidators and self-aggregators would have to calculate the NBBO in the same way it is done by the exclusive SIPs today. For purposes of calculating the NBBO and the best bid and offer (“BBO”) at each exchange, consolidators would aggregate odd lots across price levels. The new definition of “core data” in Rule 600(b) (20) would include the following: “For purposes of the calculation and dissemination of core data by competing consolidators, the best bid and best offer, national best bid and best offer, and depth of book data would include odd-lots that when aggregated are equal to or greater than a round lot, with such aggregation occurring across multiple prices and disseminated at the least aggressive price.”¹⁰

We note that this aggregation of odd lots across price levels is the same way that listing markets in practice generally calculate their best bid and offer quotes, by aggregating odd-lot quotes where they equal at least 100 shares at the least aggressive price, and this treatment carries over to the publication of the NBBO by the SIPs.¹¹ Under the proposal, this same method would be applied to each of the new round lot tiers. Thus, for a stock with a 20-share round lot, a bid on an exchange for 10 shares at \$50.02 and another bid on the same exchange for 10 shares at \$50.01 would be aggregated to show a best bid for one round lot at \$50.01.¹²

¹⁰ See discussion at 85 FR 16738-9.

¹¹ See Proposing Release, 85 FR at 16738-9, notes 157-158 and accompanying text.

¹² For clarity, we suggest that the Commission consider illustrating in the adopting release this aggregation principle with a set of examples.

We agree that this method is an appropriate way to calculate the BBO on each exchange and the NBBO and, in fact, we believe it is important to apply this method in order to provide market participants with a reasonably complete view of the best bids and offers for each security, particularly given the absence of any requirement to separately disseminate information on quotes at sizes less than the new round lot sizes. Because this method is also consistent with current practice, it will not require market participants to adjust to a different understanding of how the NBBO is calculated in making their routing decisions. We also believe it is important that this method be specified in SEC rules so as to ensure a common understanding of the NBBO by all market participants.

Depth of Book Data

We also strongly endorse the proposal to require core data to include “depth of book” data for each exchange out to five price levels at which there is a bid lower than the protected bid and an offer that is higher than the protected offer. Under the proposal, because the terms “bid” and “offer” are defined in terms of round lots, each of the five price levels would reflect trading interest of at least one round lot, applying the new round lot sizes as described above. Further, under the “core data” definition, odd lots would be aggregated to establish each price level in the same way that such aggregation would be used to define the BBO for each exchange and the NBBO. Finally, core data would also include any unprotected bid or offer on an exchange that was at a price better than its BBO.

For reasons that are clearly explained in the Proposing Release, many market participants, including agency brokers, institutional investors, and traders that account for the bulk of all trading volume in NMS securities, in practice require depth of book data from all the exchange groups to inform their routing decisions. This reality is reflected in numerous comments from participants in the Market Data Roundtable and in public comment letters.¹³ The NBBO reflects important information but typically only reflects a thin slice of the total trading interest available on exchange order books.¹⁴ In deciding whether and at what prices to provide displayed limit orders on an exchange, participants need to know how much trading interest at various levels is already on each book, among other reasons, to determine the relative priority of their orders and the likelihood of execution at a particular price level. Further, even when determining whether to send an immediate or cancel order to access an exchange quote that represents its BBO, participants often need to understand the relative size of buying and selling interest at different price levels to help gauge supply and demand and the likely direction of price movements.

For these reasons, the NBBO no longer encompasses the “core data” that market participants need to stay competitive and satisfy best execution responsibilities. The fact that depth of book data can only be

¹³ See note 7, *supra*.

¹⁴ See, e.g., Tolga Cenesizoglu and Gunnar Grass, “Bid- and ask-side liquidity in the NYSE limit order book”, *Journal of Financial Markets*, vol 38 (2018), avail. at <https://www.sciencedirect.com/science/article/abs/pii/S1386418116302397>.

obtained through exchange proprietary data feeds allows exchanges to charge extraordinarily high prices completely disproportionate to any reasonable estimation of the cost of producing that data.¹⁵

As the Commission explained in the Proposing Release, data at five price levels is more equivalent than the NBBO is today to the level of displayed liquidity that was disseminated through the SIPs prior to the advent of decimalization. Prior to that change, shares typically were quoted in sixteenths of a dollar (with a minimum increment of \$.0625 between prices).¹⁶ We believe that the requirement to include five levels of data from each exchange establishes a reasonable baseline that is much better geared to the contemporary needs of market participants than the current system, which is limited to last sale and NBBO data.

We acknowledge that this additional level of transparency will not obviate the need for many participants to continue to buy proprietary data. Importantly, however, to the extent that a significant subset of market participants could rely on this data as a viable alternative to purchasing proprietary data, or could viably choose to purchase less proprietary data than they need today, it could help to harness market competition to restrain data fee increases that today are largely unrestrained. In order to have this salutary effect, the requirement, contained in the second half of the Market Infrastructure Proposal, that consolidated data must be able to be received as quickly as proprietary data can be obtained, is also critical.

Auction Data

IEX also strongly supports the inclusion of exchange opening and closing auction data as part of core data. Auction data is defined by the proposal as all information specified by national securities exchange rules or effective national market system plans that is generated by a national securities exchange leading up to and during an auction, including opening, reopening, and closing auctions, and which is disseminated during the time periods and at the time intervals provided in such rules and plans.

Since the adoption of Regulation NMS, there has been a substantial increase in the proportion of overall market volume accounted for by trades at the beginning and end of the day, especially in closing auctions. As the SEC noted in the Proposing Release, limited auction information is now available through the SIPs, resulting in an information asymmetry, and complete auction information is not now available for any exchange. As a result, participants who want or need to participate in these critical components of equity trading are effectively compelled to buy proprietary data feeds that carry auction data. IEX has proposed and supported adding auction data to the existing SIP feeds, but those efforts have failed, both because of questions concerning whether such data can be added without amending the existing NMS plans (though some auction data is now disseminated), and because as written the plans require unanimous agreement for such an amendment.

¹⁵ See IEX, “The Cost of Exchange Services: Disclosing the Cost of Offering Market Data and Connectivity as a National Securities Exchange” (Jan. 2019), avail. at <https://www.sec.gov/comments/4-729/4729-4845907-177246.pdf>.

¹⁶ Proposing Release, 85 FR at 16753.

Protected Quotes

The Commission's proposed treatment of protected quotes as part of core data differs from the proposed treatment of each exchange's BBO, the NBBO, and depth of book in two respects. First, protected quotes would include only quotes for at least 100 shares, as is presently the case, rather than being based on the new round lot sizes. Second, order protection would extend to such quotes at only a single price level, rather than aggregating quotes of less than 100 shares across more than one price level.

As the Commission notes in the Proposing Release, Rule 611 has been controversial since its adoption, and various aspects of market structure, including improvements in trading and routing technology and the application of best execution requirements, have evolved in such a way that these changes may provide sufficient incentives for high-quality execution of orders, including those for less than 100 shares. We also agree that best execution demands much more than simply avoiding trade-throughs of protected quotes.

We understand the Commission's purpose in not extending the reach of Rule 611 to cover orders at the proposed new round lot sizes is to generally maintain the status quo in terms of the scope of orders that are subject to the rule, pending later consideration of whether to amend or repeal the rule. Given this purpose, the Commission may wish to consider whether to continue the existing market practice, as codified in exchange rules, to aggregate quotes at multiple price levels, rather than only at a single price level, when determining how orders for less than 100 shares are aggregated for purposes of Rule 611.

Additional Elements of Consolidated Market Data

Exchanges would be required to provide, and consolidators to disseminate, as consolidated market data certain elements in addition to core data, including data concerning short sale circuit breakers, Limit Up/Limit Down price bands and reference prices, market wide circuit breakers, the applicable round lot size, certain exchange-specific program data, and retail liquidity programs. This is data that is already carried by the SIPs, and IEX believes this data is highly relevant and important to all types of market participants. Therefore, we support including it in the definition of consolidated market data.

Requirements Affecting Competing Consolidators and Self-Aggregators

Requirements for Exchanges

Exchanges would need to be able to provide market data to consolidators using the same means that they make available for transmitting all their proprietary data. The charges for market data would be subject to a fee schedule adopted under the NMS plan or plans in place when the Market Infrastructure Proposal is implemented.¹⁷ The new consolidated market data plan required by the SEC's New Plan Order will need to provide a process for adopting such a fee schedule, subject to SEC approval after public notice and comment. Further, all access options would need to be available to all consolidators on a nondiscriminatory basis, and exchanges would need to provide such data in a place co-located at the exchange's data center in a latency-neutralized manner, so that participants have the ability to receive the data at the same time, regardless of where their individual systems are located in the data center.

¹⁷ Proposing Release, 85 FR at 16792.

IEX strongly supports these requirements, which will help to ensure that the data needed by consolidators to provide consolidated market data is provided timely and on a fair and nondiscriminatory basis. As an exchange that does not charge for its own market data and provides only a single method of connectivity for all participants, we believe these provisions are critical to making consolidated market data as useful as possible for a broad range of market participants. Further, absent these provisions, exchanges, to preserve their existing advantage as data providers, will have a strong incentive to undercut the utility of these alternative data feeds. As an additional measure of assurance, the Commission may wish to clarify that consolidators that do not receive data in accordance with these requirements could file a denial of access proceeding with the Commission.

Under the Market Infrastructure Proposal, fees imposed by exchanges to provide consolidated data to competing consolidators would be limited to those contained in the new plan's fee schedule, but it is not clear that connectivity fees would be so limited. We think the Commission should consider whether to include connectivity fees within the scope of fees required to be approved under the plan, in order to avoid the imposition of fees that are substantially disproportionate to the cost of providing these connectivity methods. Alternatively, the Commission may wish to clarify that exchanges would not be able to impose a separate set of connectivity fees specific to data consolidators, or charge fees for connectivity to consolidators that are different from those charged to proprietary data customers for the same type of connectivity.

Requirements for Competing Consolidators

IEX supports provisions requiring competing consolidators to be registered, apply timestamps at three different points in time, and be subject to disclosure requirements, including monthly disclosure of performance metrics. We believe these are appropriate baseline requirements that will allow flexibility to consolidators to offer a range of market data products based on market participants' needs. We also agree with the Commission that it is not necessary to prescribe the technology protocols and formats consolidators must use, and that competitive incentives, along with publication of performance metrics, will best help to advance the objective of promoting useful and widely available market data for a range of market participants.

With regard to the concern that has been expressed by some that the proposal would result in "multiple NBBOs", as the Commission pointed out in the Proposing Release, this is the case today.¹⁸ An individual participant's view of the NBBO depends on the data it uses and where it is situated relative to the sources of that data. Even if relying only on SIP feeds to determine the NBBO, different participants receive that information at different times, and many firms today construct their own individual views of the NBBO by subscribing to and aggregating multiple proprietary data feeds.

When SROs or their affiliates are acting as competing consolidators, we believe it is important that they be registered as such, and be subject to all the same disclosure and other requirements that apply to other competing consolidators. We believe that existing obligations of SROs do not substitute for the specific

¹⁸ Proposing Release, 85 FR at 16776.

requirements that would apply to competing consolidators, and all entities performing this role should be subject to identical requirements.

Self-Aggregators

IEX supports the provisions allowing individual broker-dealers to self-aggregate consolidated market data on their own behalf, and requiring that exchanges provide consolidated market data to these customers through the same means they use to sell data to other customers. We agree that it is not necessary or appropriate to require self-aggregators to be separately registered as such or to be subject to a separate compliance regime.

We believe these provisions will help to support the ability of individual broker-dealers with complex needs for market data to do what many already do, i.e., consolidate data on their own and construct their own views of the NBBO, and to make sure they can obtain market data for this purpose on fair and non-discriminatory terms. Further, we believe that the ability of such firms to self-aggregate will act as a further spur to innovation by competing consolidators, which will be motivated to differentiate their services and deliver market data as efficiently as possible.

As proposed, self-aggregators would be limited to those aggregating consolidated market data only for internal use, without redistribution to other parties, including affiliates. We suggest the Commission consider modifying this condition to permit self-aggregators to use consolidated market data in handling and routing orders on behalf of the broker-dealer's customers, including in cases where customer business is conducted through an affiliate, without being required to pay separate fees for that purpose. We believe this modification would help to promote the goal of making consolidated market data as widely available as possible for the benefit of end-investors, while preventing self-aggregators from gaining an unwarranted advantage over other participants.

We also recommend this provision be amended or clarified to allow exchanges to be classified as self-aggregators of consolidated data used to aid in matching trades or routing orders to other markets through their affiliated routing brokers. As written, the proposed rules would appear to exclude exchanges from this category, because the classification is limited to broker-dealers, and routing broker-dealers would not seem to qualify because they do not aggregate data themselves but receive it from their affiliated exchanges. Absent this change or clarification, large exchange companies will be able to impose exorbitant costs for market data required by smaller competitors, as they do today, which we believe is itself an anti-competitive practice.

Conclusion

IEX strongly supports and appreciates the Commission's ongoing efforts to move from what Chairman Clayton aptly described as a tiered system of market data access to one in which the most commonly needed elements of market data are more widely available to all market participants. This in turn will help to encourage maximum participation in the equity markets, promote efficient and orderly markets, and reduce costs to investors. We believe the Market Infrastructure Proposal will help to advance these goals by harnessing competitive market forces and replacing an outdated, monopolistic system with an updated set of rules designed for our modern capital markets.

Ms. Vanessa Countryman
May 28, 2020
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Sincerely,

A handwritten signature in black ink that reads "John Ramsay". The signature is written in a cursive style with a large initial "J" and "R".

John Ramsay
Chief Market Policy Officer, IEX

cc: The Hon. Jay Clayton, Chairman
The Hon. Hester M. Peirce, Commissioner
The Hon. Elad L. Roisman, Commissioner
The Hon. Allison Herren Lee, Commissioner

Brett Redfearn, Director, Division of Trading and Markets