CITADEL | Securities

December 21, 2016

Mr. Brent J. Fields
Secretary
Securities and Exchange Commission
100 F Street NE
Washington, DC 20549–1090

Re: Securities Exchange Act Release No. 79424; SR-FINRA-2016-042; Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Amend FINRA Rule 6191 to Modify the Web Site Data Publication Requirements Relating to the Regulation NMS Plan to Implement a Tick Size Pilot Program

Dear Mr. Fields:

Citadel Securities ("Citadel")[1] appreciates the opportunity to comment on the immediately effective rule change by the Financial Industry Regulatory Authority, Inc. ("FINRA") amending FINRA Rule 6191.[2] These amendments include extending the time for FINRA to publish on its public website the data set forth in Appendix B, Items I and II (the "Data") under the Regulation NMS Plan to Implement a Tick Size Pilot Program.[3] Pursuant to the Notice, instead of publishing the Data "on a monthly basis", FINRA will now publish the Data "within 120 calendar days following month end" in order to "address confidentiality concerns by providing for the passage of additional time" before the Data is made public.[4]

Although we appreciate FINRA's acknowledgement of the importance of maintaining confidentiality when publishing the Data, Citadel believes that the change made in the Notice is insufficient to address the confidentiality concerns identified by market participants.[5] Specifically, Citadel remains concerned that, even if the Data is aged by up to 120 calendar days before it is published on FINRA's website, market participants will still be able to readily determine the

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[1] Citadel Securities is a leading global market maker across a broad array of fixed income and equity securities. In partnering with us, our clients, including asset managers, banks, broker-dealers, hedge funds, government agencies and public pension programs, are better positioned to meet their investment goals. On an average day, Citadel accounts for approximately 15 percent of U.S. listed equity volume, 19 percent of U.S. listed equity option volume, and more than 35 percent of all retail U.S. listed equity volume.

[2] Securities Exchange Act Release No. 79424, 81 FR 87603 (December 5, 2016) (the "Notice").

[3] Securities Exchange Act Release No. 74892, 80 FR 27514 (May 13, 2015) ("Tick Size Pilot Plan").

[4] *See* FINRA Rule 6191(b)(2) *and* Notice at 87604.

[5] *See, e.g.*, Letter to Robert W. Errett, Deputy, Secretary, Commission, from Mary Lou Von Kaenel, Managing Director, Financial Information Forum ("FIF") at 3 (Dec. 16, 2015) (requesting that the industry be invited to assist in defining the form and content of the data that will be made publicly available on the self-regulatory organizations' websites to address confidentiality concerns), *and* Letter from Mary Lou Von Kaenel, Managing Director, FIF, to David Shillman, Associate Director, Division of Trading and Markets, Commission, dated August 16, 2016, *available at* https://www.fif.com/comment-letters.

identity of broker-dealer trading centers, in violation of the Tick Size Pilot Plan which explicitly provides that the "data made publicly available will not identify the trading center that generated the data."[6]

I. The FINRA Notice Does Not Resolve Identified Confidentiality Concerns

Neither FINRA Rule 6191 nor this Notice sets forth precisely how FINRA is planning to publish the Data on its website. Given the specific requirement in the approved Tick Size Pilot Plan that the published data not identify the trading center that generated the data,[7] we urge the Commission to ensure that FINRA has provided market participants with adequate notice and the opportunity to comment regarding precisely how the Data will be published.

Based on conversations with FINRA and other market participants, we understand that FINRA is intending to publish the Data in a disaggregated format using only anonymized "dummy" trading center identifications to mask the identity of a particular trading center. We further understand that the same "dummy ID" would be used for each trading center throughout the duration of the Tick Size Pilot.

In our view, publishing the Data in a disaggregated format with a static "dummy ID" will allow for the identification of broker-dealer trading centers with relative ease. For example, a market participant could direct an order in a particular Tick Size Pilot symbol to a specific trading center, and then use the execution data to find that specific order in the published Data based on time and execution price. Market participants may also be able to determine the identity of trading centers by comparing the published Data to Rule 605 reports or over-the-counter (OTC) volume data published by FINRA.

As a result, the proposed publication approach appears to contravene the Tick Size Pilot Plan approved by the Commission since it will allow the identification of specific trading centers. Furthermore, there does not appear to be a public interest justification for the use of static "dummy IDs" as opposed to other publication formats that would better protect anonymity.[8] It is incumbent upon the Commission to ensure that trading centers will in fact remain anonymous in the published Data, consistent with the Tick Size Pilot Plan requirements.

Once the identity of a specific broker-dealer trading center can be determined from the published Data, a significant amount of insight may be gained regarding the proprietary trading strategies of that trading center. Any market participant, including competitor firms, could use the Data to obtain information regarding the trading center's (a) relative aggressiveness or passiveness in specific symbols, (b) use of hidden orders, (c) fill rates, and (d) routing practices. In addition, a broker-dealer trading center's market share and activity in a given Pilot security, taking into account order size, time of day, and market conditions, would also be discernible from the published Data. The harms stemming from the leakage of confidential information would be borne

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[6] Tick Size Pilot Plan at 27519.

[7] *Id*.

[8] *See, e.g.*, 15 U.S.C. 78*o*-3(b)(6) (requiring, among other things, that the rules of an association be in the public interest).

specifically by those broker-dealer trading centers that handle customer orders, given the scope of the Data that is to be published pursuant to the Tick Size Pilot.

The "Equity Market Structure Literature Review; Part II: High Frequency Trading" conducted by Commission Staff demonstrates how much information regarding a market participant's trading strategies can be gleaned from transaction data once the identity of the market participant is known. Specifically, two papers were included where the authors used trading data with "anonymized broker identifications" to determine both the identity of a single market participant and detailed information regarding such market participant's trading strategies.[9] In one of these studies, the author matched anonymized broker IDs across two data sets containing 200 days of trade and quote data from the European Chi-X and Euronext exchanges and "immediately discovered the [market participant] this way."[10] Once the market participant was identified, the author was able to determine, among other things, the market participant's "strategy for small stocks" whereby it "immediately responds (within a second) and aggressively trades against sudden large quote changes."[11] The author further found that the market participant "increases its activity after the most intense price discovery in the opening hours is over," "does not build up towards a long-term position but rather aims at mean reverting its position quickly" and "makes money on the spread but loses money on its positions."[12]

The Data that is to be published on FINRA's website under the Tick Size Pilot is even more granular than the data used in the research cited above, containing time stamps, information regarding the use of non-displayed orders and other order types, and execution quality metrics. Isolating the order and trade execution data related to a single broker-dealer trading center would reveal a stream of information similar to an audit-trail that reveals every order sent to that broker-dealer, associated order conditions (e.g. IOC), the time it was sent (from which market conditions, including quotes and depth-of-book data, can be computed), and how many shares (if any) were filled by the broker-dealer. Utilizing a variety of well-known statistical and factor analysis techniques, this data could readily be used to reverse-engineer some of the liquidity-providing strategies used by a broker-dealer to service its clients.

We note that consumers of the published Data may also be able to reverse-engineer some of the strategies used by institutional buy-side clients to execute large orders. For example, institutional clients may route parts of a large order to multiple trading centers. At present, a broker-dealer receiving part of such order does not know whether the client routed other parts of the order away. However, FINRA's proposed approach for publishing the Data could allow market participants to identify all of the other trading centers that received parts of the large order, as well as the extent to which those orders were filled.

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[9] Staff of the Division of Trading and Markets, Commission, Equity Market Structure Literature Review Part II: High Frequency Trading at 22 (March 18, 2014) (citing to Jovanovic, Boyan and Albert J. Menkveld, 2012, Middlemen in limit-order markets, working paper, and Menkveld, Albert J., 2013, High frequency trading and the new market makers, Journal of Financial Markets, 16(4) 712-740.).

[10] Menkveld (2013) at n.12.

[11] *Id.* at 23.

[12] *Id.* at 14, 26, and 29.

Merely delaying the publication of the Data by 120 days does not address these concerns.[13] The trading strategies and algorithms of all broker-dealers, including broker-dealer trading centers, have a longer time horizon and, in many cases, the core logic underlying these strategies remains relatively constant over time. As a result, the information that can be learned about a broker-dealer's trading strategies once its identity is determined in the published Data remains extremely valuable even after 120 days has passed. The Commission should ensure that FINRA publishes the Data in a manner that does not allow for the identification of individual trading centers. Enabling other market participants to reverse-engineer proprietary trading strategies discourages free and fair competition among broker-dealers. For this reason, the approved Tick Size Pilot Plan explicitly states that the "data made publicly available will not identify the trading center that generated the data."

II. Suggested Enhancements to Ensure Anonymity While Preserving the Usefulness of the Published Data

In order to ensure that the published Data does not reveal the identity of a trading center, Citadel recommends that FINRA Rule 6191 be further amended to provide that the Data will only be published in aggregated form. This could be done by separately publishing aggregate data relating to exchange trading centers and aggregate data relating to off-exchange trading centers.[14] Aggregation in this manner would continue to provide a useful data set to the public in order to evaluate the effect of wider trading increments, while substantially reducing concerns around the ability to reverse-engineer the trading strategies of a broker-dealer trading center.

In order to facilitate robust academic study of the Tick Size Pilot, it may be possible to provide academics with access to disaggregated data, with an anonymized identification for each trading center, provided that the Commission takes steps to categorically ensure that the data is only used for such limited purposes. These steps should include, at a minimum, requiring a non-disclosure agreement that is consistent with the Municipal Securities Rulemaking Board's ("MSRB") Historical Transaction Data Product, which the Commission recently approved.[15] In order to address concerns relating to confidentiality, those seeking access to MSRB data must agree: "(1) [n]ot to attempt to attempt to reverse engineer the identity of any dealer; (2) not to redistribute the data in the RTRS Academic Data Product; (3) to disclose each intended use of the data; (4) to ensure that any data presented in work product be sufficiently aggregated so as to prevent reverse engineering of any dealer or transaction; and (5) to return or destroy the data if the agreement is terminated."[16]

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[13] We note that the Notice does not appear to ensure that FINRA will delay publication of the Data by 120 calendar days. As currently drafted, FINRA will publish the Data "within 120 calendar days following month end", which could allow for an earlier publication. We believe that the rule should be clarified to require FINRA not to publish the Data before 120 calendar days following month end.

[14] Off-exchange trading centers could also be subdivided into alternative trading systems and broker-dealer trading centers. Given the limited number of broker-dealer trading centers, however, aggregation at this level may not completely eliminate confidentiality concerns.

[15] Securities Exchange Act Release No. 78826, 81 FR 64215 (Sept. 19, 2016) (SR-MSRB-2016-09).

[16] *Id.* at 64216.

Safeguards such as these are necessary in order to ensure that the identity of trading centers cannot be determined from the published Data, as required by the Tick Size Pilot Plan. Delaying the publication of the Data by 120 days does not resolve these concerns given the amount of information that can be discerned and the longevity of underlying strategies. In the absence of resolving these confidentiality concerns, market participants may modify trading behavior in order to protect proprietary strategies. This could impact the efficacy of the overall Tick Size Pilot, as changes in behavior may not actually be attributed to the wider tick sizes introduced through the Pilot.

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We appreciate the opportunity to provide comments on this FINRA proposal. Please feel free to call the undersigned at (312) 395-3100 with any questions regarding these comments.

Respectfully,

/s/ Adam C. Cooper

Senior Managing Director and Chief Legal Officer