SECURITIES AND EXCHANGE COMMISSION
(Release No. 34-88008; File No. SR-BatsBZX-2017-34)

January 21, 2020

Self-Regulatory Organizations; Bats BZX Exchange, Inc.; Order Setting Aside Action by Delegated Authority and Approving a Proposed Rule Change, as Modified by Amendments No. 1 and 2, to Introduce Cboe Market Close, a Closing Match Process for Non-BZX Listed Securities under New Exchange Rule 11.28

I. Introduction

The official closing price for a listed security is generally determined each day through a closing auction conducted by that security's primary listing exchange. A closing auction is a point in time event conducted at the end of each trading day pursuant to a process set forth in the primary listing exchange's rules[1] that determines a security's official closing price by executing all orders participating in the auction at a single price. Closing auctions are designed to set closing prices that maximize the number of shares executed and minimize the amount of the imbalance between orders to buy a security and orders to sell a security. Market participants seeking to execute orders at a security's official closing price may do so by submitting a variety of order types to a closing auction, such as:

- market-on-close ("MOC") orders, which are orders to either buy or sell a security that are specifically designated to be executed at a security's official closing price;
- limit-on-close ("LOC") orders, which are orders to either buy or sell a security at a specific price or better that are specifically designated to execute in that security's closing auction; and

[1] See, e.g., NYSE Rule 123C; and Nasdaq Rule 4754.

- imbalance-only orders, which are limit orders (i.e., orders that specify a target execution price) designated to only execute in a closing auction against an imbalance of closing auction eligible trading interest, should there be any.

In addition, limit orders that are resting on the primary listing exchange's order book at the time that a closing auction begins may also participate in a closing auction.[2] Furthermore, market participants may seek to execute an order at the official closing price on off-exchange venues, such as alternative trading systems ("ATSs") and with broker-dealers. While these orders that are executed off-exchange would not be included in the closing auction on the primary listing exchange, they would be executed at the official closing price that is determined by the primary listing exchange.

On May 5, 2017, Bats BZX Exchange, Inc. (now known as Cboe BZX Exchange, Inc.) ("BZX" or "Exchange") filed with the Securities and Exchange Commission ("Commission"), pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 ("Act")[3] and Rule 19b-4 thereunder,[4] a proposed rule change to adopt a match process for MOC orders in non-BZX listed securities referred to as "Cboe Market Close."[5] Through Cboe Market Close, BZX would seek

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2 Limit orders resting on an exchange's order book are orders to buy or sell a security at specific price or better that are eligible for execution at any point during regular intraday trading or in a closing auction.

3 15 U.S.C. 78s(b)(1).

4 17 CFR 240.19b-4.

5 The Commission published notice of the proposed rule change in the Federal Register on May 22, 2017. See Securities Exchange Act Release No. 80683 (May 16, 2017), 82 FR 23320 ("Notice"). On July 3, 2017, the Commission designated a longer period within which to approve the proposed rule change, disapprove the proposed rule change, or institute proceedings to determine whether the proposed rule change should be disapproved. See Securities Exchange Act Release No. 81072, 82 FR 31792 (Jul. 10, 2017). On August 18, 2017, the Commission instituted proceedings under Section 19(b)(2)(B) of the Act, 15 U.S.C. 78s(b)(2)(B), to determine whether to approve or

to match buy and sell MOC orders for non-BZX listed securities and execute at BZX those matched buy and sell MOC orders in such securities at the official closing price published by the relevant primary listing exchange.

On January 17, 2018, the Commission, acting through authority delegated to the Division of Trading and Markets,[6] approved the proposed rule change, as modified by Amendment No. 1 ("Approval Order").[7] On January 31, 2018, NYSE Group, Inc. ("NYSE") and The Nasdaq Stock Market LLC ("Nasdaq") filed petitions for review of the Approval Order ("Petitions for Review"). Pursuant to Commission Rule of Practice 431(e), the Approval Order was stayed by the filing with the Commission of a notice of intention to petition for review.[8] On March 1, 2018, the Commission issued a scheduling order, pursuant to Commission Rule of Practice 431, granting the Petitions for Review of the Approval Order and providing until March 22, 2018, for

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disapprove the proposed rule change. See Securities Exchange Act Release No. 81437, 82 FR 40202 (Aug. 24, 2017) ("OIP"). On November 17, 2017, pursuant to Section 19(b)(2) of the Act, 15 U.S.C. 78s(b)(2), the Commission designated a longer period for Commission action on proceedings to determine whether to disapprove the proposed rule change. See Securities Exchange Act Release No. 82108, 82 FR 55894 (Nov. 24, 2017). On December 1, 2017, the Exchange filed Amendment No. 1 to the proposed rule change, renaming "Bats Market Close" as "Cboe Market Close." The only change in Amendment No. 1 was to rename the proposed closing match process as Cboe Market Close. Because Amendment No. 1 was a technical amendment and did not materially alter the substance of the proposed rule change or raise unique or novel regulatory issues, Amendment No. 1 was not subject to notice and comment. For purposes of consistency and readability, all references to the proposed match process for MOC orders discussed herein will be to "Cboe Market Close."

6 17 CFR 200.30-3(a)(12).

7 Securities Exchange Act Release No. 82522, 83 FR 3205 (Jan. 23, 2018).

8 17 CFR 201.431(e). See Letter to Christopher Solgan, Assistant General Counsel, Cboe Global Markets, Inc. (Jan. 24, 2018) (providing notice of receipt of notices of intention to petition for review of delegated action and stay of order), available at https://www.sec.gov/rules/sro/batsbzx/2018/sr-batsbzx-2017-34-letter-from-secretary-to-cboe.pdf.

any party or other person to file a written statement in support of, or in opposition to, the Approval Order.[9] On April 12, 2018, NYSE and Nasdaq submitted written statements in opposition to the Approval Order and BZX submitted a written statement in support of the Approval Order.[10]

On October 4, 2018, BZX filed Amendment No. 2 to the proposed rule change to address a comment made by NYSE and Nasdaq in their statements. The Commission published Amendment No. 2 for comment in the Federal Register on December 4, 2018.[11] The Commission received one comment letter on Amendment No. 2.[12]

In response to the NYSE and Nasdaq Petitions, the Commission has conducted a de novo review of BZX's proposal, giving careful consideration to the entire record—including BZX's amended proposal, the Petitions for Review, and all comments and statements submitted—to determine whether the proposal is consistent with the requirements of the Act and the rules and regulations issued thereunder that are applicable to a national securities exchange. Under

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9 See Securities Exchange Act Release No. 82794, 83 FR 9561 (Mar. 6, 2018). On March 16, 2018, the Office of the Secretary, acting by delegated authority, issued an order on behalf of the Commission granting a motion for an extension of time to file statements on or before April 12, 2018. See Securities Exchange Act Release No. 82896, 83 FR 12633 (Mar. 22, 2018).

10 See Statement of NYSE Group, Inc. in Opposition to the Division's Order Approving a Rule to Introduce Cboe Market Close ("NYSE Statement"); Statement of the Nasdaq Stock Market LLC in Opposition to Order Granting Approval of a Proposed Rule Change, as Modified by Amendment No. 1, to Introduce Cboe Market Close ("Nasdaq Statement"); and Statement of Cboe BZX Exchange, Inc. in Support of Commission Staff's Approval Order ("BZX Statement"). The Nasdaq Statement included two reports, one by Harvey Pitt and Chester Spatt ("Pitt/Spatt Report"), and one by Yakov Amihud and Haim Mendelson ("Amihud/Mendelson Report").

11 See Securities Exchange Act Release No. 84670 (Nov. 28, 2018), 83 FR 62646 ("Amendment No. 2").

12 See Letter from Jeffrey S. Davis, Deputy General Counsel, Nasdaq (Dec. 18, 2018) ("Nasdaq Letter 4").

Section 19(b)(2)(C) of the Act, the Commission must approve the proposed rule change of a self-regulatory organization ("SRO") if the Commission finds that the proposed rule change is consistent with the requirements of the Act and the applicable rules and regulations thereunder; if it does not make such a finding, the Commission must disapprove the proposed rule change.[13] Additionally, under Rule 700(b)(3) of the Commission's Rules of Practice, the "burden to demonstrate that a proposed rule change is consistent with the Exchange Act and the rules and regulations issued thereunder … is on the self-regulatory organization that proposed the rule change."[14] The description of a proposed rule change, its purpose and operation, its effect, and a legal analysis of its consistency with applicable requirements must all be sufficiently detailed and specific to support an affirmative Commission finding.[15] Any failure of a self-regulatory organization to provide the information elicited by Form 19b-4 may result in the Commission not having a sufficient basis to make an affirmative finding that a proposed rule change is consistent with the Act and the rules and regulations issued thereunder that are applicable to the self-regulatory organization.[16]

The Commission has considered whether the proposal is consistent with the Act, including Section 6(b)(8) of the Act, which requires that the rules of a national securities exchange not impose any burden on competition not necessary or appropriate in furtherance of the purposes of the Act, [17] as well as Section 6(b)(5) of the Act, which requires, among other

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13 15 U.S.C. 78s(b)(2)(C).

14 17 CFR 201.700(b)(3).

15 Id.

16 Id.

17 15 U.S.C. 78f(b)(8).

things, that the rules of a national securities exchange be designed to prevent fraudulent and manipulative acts and practices, remove impediments to and perfect the mechanism of a free and open market and a national market system, and, in general, protect investors and the public interest.[18]

For the reasons discussed further herein, BZX has met its burden to show that the proposed rule change is consistent with the Act, and this order sets aside the Approval Order and approves BZX's proposed rule change, as amended. In particular, the Commission concludes that the record before the Commission demonstrates that Cboe Market Close should introduce and promote competitive forces among national securities exchanges for the execution of MOC orders. In addition, the record demonstrates that Cboe Market Close should not disrupt the closing auction price discovery process nor should it materially increase the risk of manipulation of official closing prices. Therefore, and as explained further below, the Commission finds the proposal consistent with Sections 6(b)(8) and 6(b)(5) of the Act.

The Commission recognizes that Cboe Market Close, once implemented, would introduce a new match process for non-BZX listed securities, and more generally, could potentially contribute to new dynamics in certain aspects of the public equity markets. The Commission and Commission staff regularly monitor changes in the equity markets, including changes in market quality and investor outcomes (among other things), and will be mindful of potential effects associated with Cboe Market Close. To that end, no later than one year after the date that Cboe Market Close becomes effective, the Commission staff will advise the Commission of its assessment of any post-implementation effects or changes on market quality or investor outcomes. The Commission and Commission staff regularly receive input from the

[18] 15 U.S.C. 78f(b)(8).

public, including investors, other exchanges and markets, and other market participants on matters related to market quality, investor outcomes and related issues. For convenience, we are providing an email box as a method for members of the public who wish to submit data, analyses or observations concerning any such matters, including in respect of post-implementation effects or changes associated with Cboe Market Close, to communicate with the Commission's staff. That email box is: Marketstructure@SEC.GOV.[19]

II. Summary of the Proposal

BZX proposes to introduce Cboe Market Close, a match process for MOC orders[20] in non-BZX listed securities. Through Cboe Market Close, a BZX Member would be able to submit buy and sell MOC orders for non-BZX listed securities to the BZX System.[21] Cboe Market Close would not accept LOC orders or any other order types. Once accepted, the System would seek to match buy and sell MOC orders and execute those matched buy and sell MOC orders at the official closing price for the security that is published by its primary listing exchange.

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19 Submissions received may be made public; personal identifying information in the submission will not be redacted or edited, so you should submit only information that you wish to make available publicly.

20 BZX defines the term "Market-On-Close" or "MOC" to mean a BZX market order that is designated for execution only in the Closing Auction. See Exchange Rule 11.23(a)(15). The Exchange proposed to amend the description of Market-On-Close orders to include orders designated to execute in the proposed Cboe Market Close. A BZX market order is defined in BZX Rule 11.9(a)(1) as "[a]n order to buy or sell a stated amount of a security that is to be executed at the NBBO when the order reaches the Exchange . . . ."

21 The term "System" is defined as "the electronic communications and trading facility designated by the Board through which securities orders of Users are consolidated for ranking, execution and, when applicable, routing away." See BZX Rule 1.5(aa). The term "Board" is defined as "the Board of Directors of the Exchange." See BZX Rule 1.5(f).

BZX Members[22] would be able to enter, cancel, or replace MOC orders designated for participation in Cboe Market Close beginning at 6:00 a.m. Eastern Time until 3:35 p.m. Eastern Time ("MOC Cut-Off Time").[23] Members would not be able to enter, cancel, or replace MOC orders designated for participation in the proposed Cboe Market Close after the MOC Cut-Off Time.

Members would be required to mark as "short" or "short exempt" all short sale MOC orders. MOC orders marked short would be rejected, while MOC orders marked short exempt would be accepted and processed by the System.[24]

At the MOC Cut-Off Time, the System would match for execution all buy and sell MOC orders entered into the System with execution priority determined based on time-received.[25] Any remaining balance of unmatched shares would be cancelled and returned to the Member(s). The

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22 The term "Member" is defined as "any registered broker or dealer that has been admitted to membership in the Exchange." See BZX Rule 1.5(n).

23 Currently, the NYSE designates the cut-off time for the entry of NYSE Market At-the-Close Orders as 3:50 p.m. Eastern Time. See NYSE Rule 123C. Nasdaq, in turn, designates the cut-off time for the entry of Nasdaq Market On Close Orders as 3:55 p.m. Eastern Time. See Nasdaq Rule 4702.

24 See Amendment No. 2. In Amendment No. 2, the Exchange added Interpretation and Policies .04 to proposed BZX Rule 11.28 to reflect the handling of MOC orders marked as "short" or "short exempt." The Exchange stated that all MOC orders marked short would be rejected to ensure that the Exchange is able to comply with the Exchange's obligations under Rule 201 of Regulation SHO in the event a short sale circuit breaker is triggered and the official closing price determined by the primary listing exchange is not above the national best bid.

25 As set forth in proposed Interpretation and Policy .02, the Exchange would cancel all MOC orders designated to participate in Cboe Market Close in the event the Exchange becomes impaired prior to the MOC Cut-Off Time and is unable to recover within 5 minutes from the MOC Cut-Off Time. The Exchange states that this would provide Members time to route their orders to the primary listing exchange's closing auction. Should the Exchange become impaired after the MOC Cut-Off Time, proposed Interpretation and Policy .02 states that the Exchange would retain all matched MOC orders and execute those orders at the official closing price once it is operational.

System would disseminate, via the Cboe Auction Feed,[26] the total size of all buy and sell MOC orders matched per security via Cboe Market Close. All matched buy and sell MOC orders would remain on the System until the publication of the official closing price by the primary listing exchange. Upon publication of the official closing price by the primary listing exchange, the System would execute all previously matched buy and sell MOC orders at that official closing price.[27] If there is no initial official closing price published by 8:00 p.m. Eastern Time for any security, BZX would cancel all matched MOC orders in such security.

BZX states that it is proposing to adopt Cboe Market Close in response to requests from market participants, particularly buy-side firms, for an alternative to the primary listing exchanges' closing auctions that still provides an execution at a security's official closing price.[28] BZX intends to file a separate proposal related to fees for MOC orders executed in the Cboe Market Close. BZX stated that, under this separate proposal, the fees for Cboe Market Close

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26 The Cboe Auction Feed disseminates information regarding the current status of price and size information related to auctions conducted by the Exchange and the data is provided at no charge. See BZX Rule 11.22(i). The Exchange also proposed to amend BZX Rule 11.22(i) to reflect that the Cboe Auction Feed would also include the total size of all buy and sell orders matched via Cboe Market Close.

27 The Exchange would report the execution of all previously matched buy and sell orders to the applicable securities information processor and will designate such trades as ".P", Prior Reference Price. See Notice at 23321. In the case where the primary listing exchange suffers an impairment and is unable to perform its closing auction process, BZX would utilize the official closing price published by the exchange designated by the primary listing exchange. See proposed Interpretation and Policy .01. In addition, proposed Interpretation and Policy .03 specifies that up until the closing of the applicable securities information processor at 8:00 p.m. Eastern Time, BZX intends to monitor the initial publication of the official closing price, and any subsequent changes to the published official closing price, and adjust the price of such trades accordingly.

28 See Notice at 23321.

would be set and maintained over time at a rate less than the fee charged by the applicable primary listing exchange for its own respective closing mechanism.[29]

BZX contends that the proposal would not compromise the price discovery function performed by the primary listing exchanges' closing auctions because Cboe Market Close would only accept, match, and execute MOC orders, which are designated to execute at the security's official closing price.[30] In order to avoid an impact on price discovery, BZX states that Cboe Market Close would not accept limit orders, which are orders to buy or sell a security at a specific price or better and are the basis from which price formation occurs in a closing auction.[31]

III. Discussion and Commission Findings

The Commission finds that the proposed rule change is consistent with the requirements of the Act and the rules and regulations thereunder applicable to a national securities exchange.[32] The Commission therefore approves the proposed rule change. In particular, as discussed below, the Commission finds that the proposal is consistent with: Section 6(b)(8) of the Act,[33] which requires that the rules of a national securities exchange not impose any burden on competition

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29 See id.

30 See BZX Rule 11.9(a)(2) which defines a "limit order" as "[a]n order to buy or sell a stated amount of a security at a specified price or better."

31 See Notice at 23321.

32 In approving this proposed rule change, the Commission has considered the proposed rule change's impact on efficiency, competition, and capital formation. See 15 U.S.C. 78c(f). The Commission addresses comments about economic effects of the proposed rule change on efficiency and competition below in Section III.A. The Commission addresses the effects of the proposed rule change on capital formation below in Sections III.B.1 and III.C.

33 15 U.S.C. 78f(b)(8).

not necessary or appropriate in furtherance of the purposes of the Act; and Section 6(b)(5) of the Act,[34] which requires that the rules of a national securities exchange, among other things, be designed to prevent fraudulent and manipulative acts and practices, promote just and equitable principles of trade, remove impediments and perfect the mechanism of a free and open market and a national market system, and, in general, protect investors and the public interest. Further, the Commission believes that the proposal is consistent with the statutory objective of fair and orderly markets under Section 11A of the Act.

The Commission received a number of comment letters addressing the proposed rule change's consistency with these provisions, specifically focusing on its potential effect on: (1) competition; (2) price discovery and fragmentation; (3) issuers and other market participants; (4) market complexity and operational risk; and (5) manipulation. The Commission addresses each of these issues below.

First, the Commission addresses arguments raised that the proposal is inconsistent with Section 6(b)(8) of the Act because it would burden competition by, among other things, free-riding on the investments of the primary listing exchanges in their closing auctions. We find that, on the contrary, the proposal will not impose any burden on competition not necessary or appropriate in furtherance of the purposes of the Act, and, in fact, it should promote competition among MOC order execution venues and foster price competition for MOC order execution fees.

Second, the Commission addresses comments regarding the proposal's consistency with Section 6(b)(5) of the Act. These commenters argue that the proposal would fragment the execution of MOC orders and thereby disrupt closing auction price discovery, increase market complexity and operational risk, and increase the risk of manipulation through, among things,

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[34] 15 U.S.C. 78f(b)(5).

information asymmetries. The Commission finds, based on Cboe Market Close's design and the record before us, that the proposal is consistent with Section 6(b)(5) of the Act. As explained below, because Cboe Market Close will only execute MOC orders against other MOC orders, it should not disrupt the closing auction price discovery process. Furthermore, Cboe Market Close should not significantly increase market complexity and operational risk because it will simply constitute an additional optional MOC order execution venue for market participants, and an optional data feed that market participants may choose to monitor for information regarding the total size of matched MOC orders via Cboe Market Close. Lastly, as discussed below, Cboe Market Close should not materially increase the risk of manipulation through information asymmetries because the information that may be discerned by participants of Cboe Market Close is of limited usefulness, and BZX has made detailed commitments regarding its plans to surveil, detect, and prevent against any potential manipulation through the use of Cboe Market Close.

A. Effect on Competition

1. Price Competition and "Free Riding"

a. Comments on the Proposal

A number of commenters addressed the proposal's effect on competition. Some commenters supporting the proposal stated that it would increase competition among exchanges for executions of orders at the close.[35] These commenters asserted that increased competition

[35] See Letters from: Donald K. Ross, Jr., Executive Chairman, PDQ Enterprise, LLC (June 6, 2017) ("PDQ Letter"); Ray Ross, Chief Technology Officer, Clearpool Group (June 12, 2017) ("Clearpool Letter") at 2; Venu Palaparthi, SVP, Compliance, Regulatory and Government Affairs, Virtu Financial (June 12, 2017) ("Virtu Letter") at 2; Theodore R. Lazo, Managing Director and Associate General Counsel, SIFMA (June 13, 2017) ("SIFMA Letter 1")at 2; John Ramsay, Chief Market Policy Officer, Investors Exchange

could result in reduced fees for market participants.[36] Some of these commenters characterized the primary listing exchanges as maintaining a "monopoly" on orders seeking a closing price with no market competition, which they argued has, and would continue to, result in a continual increase in fees for such orders if the proposal were not approved.[37] Commenters also asserted that the primary listing exchanges have taken advantage of increasing volume at the close by charging significantly higher fees for participation in the closing auctions than for intraday trading.[38] One commenter added that the high costs of closing transactions are exacerbated because primary listing exchanges assess a fee on both sides of the closing auction executions, and imbalance feeds for auctions are only available as part of the exchanges' premium data products.[39] Two commenters who opposed the proposal acknowledged that increasing fees and lack of price competition with respect to closing auctions are of concern, but suggested

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LLC (June 23, 2017) ("IEX Letter") at 1; David M. Weisberger, Head of Equities, ViableMkts (Aug. 3, 2017) ("ViableMkts Letter") at 1-2; and Donald Bollerman (Aug. 18, 2017) ("Bollerman Letter") at 2.

36 See PDQ Letter; Clearpool Letter at 2; Virtu Letter at 2; SIFMA Letter 1 at 2; IEX Letter at 1; ViableMkts Letter at 1; Bollerman Letter at 2; and Letter from Theodore R. Lazo, Managing Director and Associate General Counsel, SIFMA (Aug. 18, 2017) ("SIFMA Letter 2").

37 See IEX Letter at 3; Clearpool Letter at 2; and ViableMkts Letter at 1-2. However, one commenter also stated that it believes the fees charged by NYSE and Nasdaq for participating in their closing auctions are not excessive and there is no need for additional fee competition for executing orders at the official closing price. See Letter from Ari M. Rubenstein, Co-Founder and Chief Executive Officer, GTS Securities LLC (June 22, 2017) ("GTS Securities Letter 1") at 5.

38 See, e.g., Clearpool Letter at 2; and ViableMkts Letter at 1-2 (estimating that the average "capture" for MOC orders executed in the Nasdaq and NYSE closing auctions is likely over 20 mils per share compared to the average capture that ranges from a negative number to 10 mils on Nasdaq and from a negative number to 16 mils on NYSE for intraday executions).

39 See Clearpool Letter at 2.

alternatively that regulatory checks on closing auction pricing, such as fee caps, could be put into place.[40]

One commenter argued that the proposal does not unduly burden competition as exchanges often attempt to compete by adopting functionality or fee schedules developed by competitors.[41] Another commenter also asserted that the proposal is not fully competitive with closing auctions, as it does not accept priced orders or disseminate imbalance information.[42] Rather, the commenter believed that the proposal competes with other un-priced orders in closing auctions which, in its view, is not "destructive to the mission of the closing auction."[43]

In contrast, other commenters argued that the proposal would impose a burden on competition not necessary or appropriate in furtherance of the purposes of the Act, including by "free-riding" on the investments the primary listing exchanges have made in their closing auctions.[44] These commenters asserted that the proposal would unfairly burden competition as it

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40 See Letters from: Ari M. Rubenstein, Co-Founder and Chief Executive Officer, GTS Securities LLC (Aug. 17, 2017) ("GTS Securities Letter 2") at 6 (acknowledging that many market participants were concerned that the primary listing exchanges "have too much pricing power relative to the closing auction"); and Mehmet Kinak, Head of Global Equity Market Structure & Electronic Trading, et al., T. Rowe Price Associates, Inc. (July 7, 2017) ("T. Rowe Price Letter") at 3 (stating that closing auction fees "have been steadily increasing in the absence of competitive alternatives").

41 See IEX Letter at 3.

42 See ViableMkts Letter at 5.

43 See id. ViableMkts also argued that the effect of this competition will most likely be increased volumes at the closing price because of lower marginal costs and the potential to attract new types of investors to transact at the closing price. See id.

44 See, e.g., Letters from: Elizabeth K. King, General Counsel and Corporate Secretary, NYSE (June 13, 2017) ("NYSE Letter 1") at 9-10; Elizabeth K. King, General Counsel and Corporate Secretary, NYSE (Nov. 3, 2017) ("NYSE Letter 3") at 1; Edward S. Knight, Executive Vice President and General Counsel, Nasdaq, Inc., (June 12, 2017) ("Nasdaq Letter 1") at 5-6 & 9; Edward S. Knight, Executive Vice President and General Counsel, Nasdaq, Inc. (Sept. 18, 2017) ("Nasdaq Letter 2") at 7- 8; Jon Stonehouse, CEO, and Tom Staab, CFO, BioCryst Pharmaceuticals, Inc. (July 31, 2017) ("BioCryst

would allow BZX to use the closing prices established through the auction of a primary listing exchange, without bearing any of the attendant costs or risks.[45] In particular, NYSE and Nasdaq asserted that the existing exchange fees for closing auctions reflect the investments that have been made in developing and operating the closing auctions, including the rules and procedures governing the auctions, the technology to determine the official closing price of a security, and the surveillance tools necessary to monitor the closing process.[46] In addition, Nasdaq and NYSE highlighted the regulatory costs related to operating a closing auction.[47] Specifically, Nasdaq and NYSE cited compliance costs associated with Regulation Systems Compliance and Integrity

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Letter") at 2; Charles Beck, Chief Financial Officer, Digimarc Corporation (Aug. 3, 2017) ("Digimarc Letter") at 1-2; Michael J. Chewens, Senior Executive Vice President & Chief Financial Officer, NBT Bancorp Inc. (Aug. 11, 2017) ("NBT Bancorp Letter") at 2; Patrick L. Donnelly, Executive Vice President & General Counsel, Sirius XMHoldings Inc. (Aug. 17, 2017) ("Sirius Letter") at 2; and Gabrielle Rabinovitch, VP, Investor Relations, PayPal Holdings, Inc. (Sept. 12, 2017) ("PayPal Letter") at 1; NYSE Statement at 14-18; Nasdaq Statement at 10-16; and Pitt/Spatt Report at 11-12, 19-20. See also Letter from James J. Angel, Associate Professor, McDonough School of Business, Georgetown University (July 30, 2017) ("Angel Letter") at 3 (calling for a rationalization of intellectual property protection in order to foster productive innovation).

45 See, e.g., NYSE Letter 1 at 9; NYSE Letter 3 at 5; NYSE Statement at 14-18; Nasdaq Statement at 10-16; Pitt/Spatt Report at 11-12, 19-20; and Letters from: Elizabeth K. King, General Counsel and Corporate Secretary, NYSE (Aug. 9, 2017) ("NYSE Letter 2") at 1-3; and Elizabeth K. King, General Counsel and Corporate Secretary, NYSE (Jan. 12, 2018) ("NYSE Letter 4") at 1. In contrast, one commenter argued that BZX would not be "free-riding" on the primary listing exchanges' price discovery process because it is "a regular and accepted practice" to match orders at reference prices. See SIFMA Letter 2 at 2.

46 See NYSE Letter 1 at 9; NYSE Letter 2 at 2; NYSE Letter 3 at 5; NYSE Statement at 14-16; and Nasdaq Statement at 11, 15. Moreover, NYSE stated that it dedicates resources to providing systems to designated market makers ("DMMs") necessary to facilitate the closing of trading as well as to floor brokers to enter and manage their customers' closing interest. See NYSE Letter 2 at 2; and NYSE Statement at 15.

47 See Nasdaq Statement at 11-12; and NYSE Statement at 15-16.

("Regulation SCI").[48] Nasdaq and NYSE explained that Regulation SCI was adopted by the Commission to enhance the robustness and resiliency of the technological systems of "SCI entities," including exchanges.[49] They stated that closing auctions are "critical SCI systems" under Regulation SCI, and as such, are subject to heightened requirements and increased compliance costs, as compared to other "SCI systems."[50] Nasdaq and NYSE asserted that, because Cboe Market Close is not a closing auction and thus not a "critical SCI system" under the regulation, BZX would be at a competitive advantage by not having to incur such additional compliance costs when competing to attract MOC orders.[51] Because BZX would not have to bear any of the aforementioned expenses of developing and conducting a closing auction, NYSE and Nasdaq concluded that BZX would be able to charge fees to execute MOC orders at the official closing price at a price with which the primary listing exchanges could not realistically compete.[52] Nasdaq further argued that because the closing fees of NYSE and Nasdaq would always be undercut by BZX, it would diminish incentives for the primary listing exchanges to invest in enhancements to their closing auctions.[53] In addition, Nasdaq argued that the proposal

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48 See Nasdaq Statement at 11-12; and NYSE Statement at 15-16.

49 See Nasdaq Statement at 11-12; and NYSE Statement at 15-16.

50 See Nasdaq Statement at 11-12; and NYSE Statement at 15-16.

51 See Nasdaq Statement at 11-12; and NYSE Statement at 15-16. Nasdaq and NYSE also argued that Cboe Market Close results in regulatory disparities similar to those that the Commission found in its Benchmark Disapproval Order to unnecessarily and inappropriately burden competition. See discussion, infra Section III.A.2.

52 See Nasdaq Statement at 11-12; and NYSE Statement at 15-16. NYSE stated that the majority of costs associated with operating a closing auction are fixed costs. If NYSE were to reduce the fees charged for participating in its closing auction, NYSE stated that there likely would be other impacts on the exchange's overall fee structure. See NYSE Statement at 15-16.

53 See Nasdaq Statement at 11. See also PayPal Letter at 1 (citing concerns about the "incentive structure" that the proposal presents).

would decrease incentives to serve as a listing exchange if it could not offset the cost of its regulatory responsibilities as a listing exchange with the revenue derived from executing MOC orders in Nasdaq-listed securities.[54]

Nasdaq and NYSE further stated that BZX is not proposing to develop its own auction or improve the functionality of the closing auctions in the primary listing exchanges, but rather merely using the price generated by the listing exchanges through their proprietary processes.[55] Nasdaq added that in order for BZX to meaningfully enhance competition, it would have to generate its own closing price.[56] NYSE also stated that the proposal differs from the competing auctions currently run by Nasdaq and NYSE Arca in securities not listed on their exchanges because those auctions are independent price-discovery auction events that do not rely on prices established by the primary listing exchange. Therefore, in NYSE's view, those auctions compete on a "level playing field" and serve as an alternative method of establishing an official closing price if a primary listing exchange is unable to conduct a closing auction due to a technology issue.[57]

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54 See Nasdaq Statement at 12-13.

55 See Nasdaq Statement at 15 (citing also the Pitt/Spatt Report, which asserted that the Cboe Market Close 'is not…a strategically equivalent product to that previously developed by Nasdaq'); and NYSE Statement at 14-15, 19-20. See also Pitt/Spatt Report at 11-12 (noting the Cboe Market Close "deliberately lacks any mechanism for determining the price" at which matched MOCs would be executed and is dependent on the Nasdaq closing cross).

56 See Nasdaq Statement at 13. See also infra notes 240-242 (discussing comments on the proposal's effect on price discovery and competing auctions and over-the-counter matching services).

57 See NYSE Letter 1 at 6; NYSE Letter 2 at 3-4; NYSE Letter 3 at 5; and NYSE Statement at 20 n.59. In response, one commenter stated that these competing auctions were not originally proposed to only serve as a back-up to a primary listing exchanges' closing auction. See SIFMA Letter 2 at 2. In addition, one commenter stated that such

Nasdaq also argued that the proposal undermines intra-market competition, by removing orders from Nasdaq's auction book.[58] Specifically, Nasdaq asserted that, by diverting orders away from NYSE and Nasdaq, the proposal would detract from robust price competition and discovery, which Nasdaq argued is necessary for the exchange to arrive at the most accurate closing price.[59] NYSE also argued that the proposal affects competition for listings, as issuers choose where to list their securities based on how primary listing exchanges are able to centralize liquidity and perform closing auctions.[60] In addition, Nasdaq argued that price competition between exchanges is not as important a form of competition as innovation because price competition elevates fragmentation, sacrifices quote and order interaction, and, in the case of Cboe Market Close, undermines innovation.[61] Further, Nasdaq stated that BZX's comparisons to pegged orders—where the price is based upon reference data that does not originate on that exchange—were misplaced because all exchanges contribute to the prices to which such orders are pegged, whereas BZX does not contribute to the closing price on a primary listing exchange.[62]

Nasdaq and NYSE also disputed the purported benefits of the proposal for market participants.[63] First, Nasdaq and NYSE asserted that the cost savings from Cboe Market Close is

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competing auctions are not expressly limited to operating only when another primary listing exchange is experiencing a failure. See Bollerman Letter at 3.

58 See Nasdaq Letter 1 at 9; and Nasdaq Statement at 12-14.

59 See Nasdaq Letter 1 at 10; Nasdaq Letter 2 at 7-8; and Nasdaq Statement at 13. See also infra Section III.B (discussing comments on the proposal's effect on price discovery).

60 See NYSE Letter 1 at 9.

61 See Nasdaq Letter 2 at 8.

62 See id. at 13.

63 See Nasdaq Statement at 16; and NYSE Statement at 18-19.

unlikely to be passed along to investors because broker-dealers typically pay an exchange's transaction fees.[64] Further, Nasdaq and NYSE asserted that the proposal would not enhance competition with respect to execution quality, but rather may harm execution quality.[65] In this regard, Nasdaq argued that because orders would be irrevocable earlier than on the listing exchange, it would impair the price discovery function on the primary listing exchanges' closing auctions,[66] while NYSE stated that the proposal would reduce the amount of MOC orders in the closing auctions, thereby reducing the quality of the closing price and inhibiting competition.[67]

b. BZX Response to Comments

BZX asserted that the proposal would enhance rather than burden competition by promoting competition in the use of MOC orders.[68] Specifically, BZX stated that the proposal would have a positive effect on competition as it offers a price-competitive alternative that will not affect the price discovery process.[69] BZX stated that it believes that this increased price competition will result in lower fees for market participants seeking an execution of MOC orders

64 See Nasdaq Statement at 16; and NYSE Statement at 18-19.

65 See Nasdaq Statement at 16; and NYSE Statement at 20.

66 See Nasdaq Statement at 16.

67 See NYSE Statement at 20.

68 See Letters from: Joanne Moffic-Silver, Executive Vice President, General Counsel, and Corporate Secretary, Bats Global Markets, Inc. (Aug. 2, 2017) ("BZX Letter 1") at 10-11; and Joanne Moffic-Silver, Executive Vice President, General Counsel, and Corporate Secretary, Bats Global Markets, Inc. (Oct. 11, 2017) ("BZX Letter 2") at 6-7. BZX further argued that Nasdaq's assertion that the proposal would undermine competition amongst orders is misplaced. BZX believes that paired-off MOC orders—which are not price-setting orders but rather the beneficiaries of price discovery—do not affect interactions that take place on another exchange because orders compete with each other for executions within each individual exchange based on the parameters a market participant places on its orders. See BZX Letter 1 at 11.

69 See BZX Letter 2 at 7.

at the official closing price.[70] In response to NYSE and Nasdaq assertions that fee reductions would not be passed along to investors, BZX argued that, even if broker-dealers do not directly pass through lower fees to their customers, customers would still receive indirect benefits from lower execution fees such as general fee reductions from broker-dealers or other improvements that broker-dealers may make due to cost savings.[71]

BZX also challenged the assertion that it was "free-riding" on the primary listing exchanges' closing auctions.[72] BZX argued that instead it was, on balance, providing a "a materially better value to the marketplace" in two ways: by not diverting price-forming limit orders away from the primary listing exchange; and by providing users with the official closing price because any other price would be undesirable to market participants and potentially harmful to price formation.[73] BZX further argued that there is precedent for an exchange to execute orders solely at reference prices while not also displaying priced orders for that security.[74] In addition, BZX stated that no rule or regulation provides the primary listing exchange with control over how other market participants use the official closing price in their matching engines or with regard to the pricing of their own products, such as mutual funds, ETFs, and indices.[75] BZX also stated that improving and mimicking functionality enhances the

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70 See BZX Statement at 22.

71 See BZX Letter 2 at 7.

72 See BZX Letter 1 at 5; and BZX Letter 2 at 7.

73 See BZX Letter 1 at 5.

74 See BZX Letter 1 at 6; and BZX Letter 2 at 7 (describing NYSE's after hours crossing sessions which execute orders at the NYSE official closing price and the ISE Stock Exchange functionality that only executed orders at the midpoint of the NBBO and did not display orders).

75 See BZX Letter 2 at 8.

competitive dynamic among exchanges.[76] Further, BZX stated that the Commission has approved the operation of competing closing auctions, noting in particular the closing auctions on Nasdaq, NYSE Arca, and the American Stock Exchange.[77]

BZX also asserted that Cboe Market Close would create benefits for market participants beyond price competition.[78] In particular, BZX argued that it would be unable to attract order flow based solely on lower execution fees, so it would have to build a "viable alternative venue to which market participants will choose to send their orders," including continually improving Cboe Market Close technology.[79] This, in turn, BZX argued, would likely cause the primary listing exchanges to seek to improve quality and performance of their auctions, thereby enhancing competition and benefiting market participants generally.[80]

c. Commission Discussion and Findings

BZX and other commenters have provided evidence that, over the past several years, closing auction fees have steadily increased and are significantly higher than fees for intraday

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76 See id.

77 See BZX Letter 1 at 6. See also infra Section III.B.3 (discussing BZX's comments on competing closing auctions with regard to price discovery). In addition, in response to Nasdaq's contention that it is aware of no regulator in any jurisdiction that has sanctioned a diversion of orders from the primary listing exchange closing auction, BZX noted the Ontario Securities Commission's approval of a similar proposal by Chi-X Canada ATS, which it said is currently owned by Nasdaq, to match MOC orders at the closing price established by the Toronto Stock Exchange. See Nasdaq Letter 1 at 10; BZX Letter 1 at 7; and BZX Letter 2 at 2 (stating that the Ontario Securities Commission found that the proposal would not threaten the integrity of the price formation process and would pressure the Toronto Stock Exchange to competitively price executions during their closing auction).

78 See BZX Statement at 23-24.

79 See BZX Statement at 23-24.

80 See BZX Statement at 23-24.

trading.[81] For example, BZX stated that the per share proceeds (i.e., the per share fee charged to the buyer plus the per share fee charged to the seller) for the primary listing exchanges based on the top tier fees they assess for closing auction trades is $0.0012 per share for NYSE and $0.0018 per share for Nasdaq, while the primary listing exchanges' per share proceeds from intraday trading based on the top tier fees and rebates they assess for intraday trades are much lower, specifically $0.00055 for NYSE and -$0.00005 for Nasdaq.[82] Another commenter estimated that, under Nasdaq and NYSE's tiered fee structures, the average proceeds from MOC orders executed in the Nasdaq and NYSE closing auctions is likely over $0.0020 per share compared to the average per share proceeds from intraday executions, which ranges from a negative number to $0.0010 on Nasdaq and from a negative number to $0.0016 on NYSE.[83]

While the development and ongoing costs associated with the primary listing exchanges' closing auctions may play a role in the fees for closing auctions, NYSE and Nasdaq have not provided any data or details to support this assertion.[84] And those costs are unlikely to account

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81 See Notice at 23321 and n.9; and supra notes 38-39 and accompanying text. Specifically, BZX states that NYSE's closing auction fees have gone up by 16%, while Nasdaq's fees have increased by 60%. See Notice at 23321; and BZX Statement at 3 and n.11.

82 See Notice at 23321; and BZX Statement at 3 and n.11. NYSE and Nasdaq utilize fee structures whereby they pay per share rebates to market participants who provide liquidity on their exchanges. As a result, the per share proceeds figures for intraday trading provided by BZX and other commenters may be reflected as negative amounts because a rebate paid to a liquidity provider may, in some instances, exceed the fee charged to a liquidity taker.

83 See ViableMkts Letter at 1-2. See also Clearpool Letter at 2. The Commission notes that a recent academic paper supports this notion. See Eric Budish, Robin S. Lee, and John J. Shim, Will the Market Fix the Market? A Theory of Stock Exchange Competition and Innovation, (May 6, 2019), available at https://www.nber.org/papers/w25855.pdf.

84 The Commission requested such information in the OIP, asking specifically: What are the current costs associated with a primary listing market developing and operating a closing auction, and to what extent (and if so, how) are these costs passed on to market participants today? How do the fixed costs associated with developing closing auctions

for the entirety of the wide disparity between closing auction fees and intraday trading fees demonstrated by BZX and other commenters. While BZX would not be conducting the closing auction that would determine the execution price for orders executed in Cboe Market Close, by providing an additional exchange venue to execute MOC orders, the availability of Cboe Market Close should foster price competition for the execution of MOC orders. Further, as noted above, BZX stated that it intends to file a separate proposal related to fees for MOC orders executed in the Cboe Market Close that would set and maintain such fees over time at a rate less than the fee charged by the applicable primary listing exchange for its own respective closing mechanism.[85] Although some commenters argued that lower fees resulting from the proposal would not generally benefit market participants because such fees are typically not passed through from a broker-dealer to its customers, the Commission believes that the costs of closing auctions can have a negative effect on brokers and the investors that they serve, particularly for smaller and mid-size brokers.[86] The Commission believes that fostering price competition for the execution of MOC orders may facilitate the ability for smaller and mid-size brokers to better compete for investors' MOC order flow, and greater choice among, and participation by, broker-dealers in handling MOC orders should inure to the benefit of end investors.

While the primary listing exchanges and other commenters argue that BZX is "free riding" on investments of the primary listing exchanges in the development and maintenance of the closing auction process—and thus impeding competition in a manner inconsistent with the Act—this concern must be evaluated against the enhanced competition that the proposal should

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compare to the variable costs of conducting closing auctions? How do the revenues collected from closing auctions compare to these costs? See OIP at 40211.

85 See supra note 29 and accompanying text.

86 See, e.g., Clearpool Letter at 1.

provide. In particular, BZX has demonstrated that the proposal will not impose a burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act because it should promote competition among MOC order execution venues and foster price competition for MOC order execution fees, areas which currently appear to be lacking the same competitive forces as intraday trading. In this regard, as discussed above, commenters assert that the primary listing exchanges have taken advantage of the "monopoly" they have on orders seeking a closing price to impose high per share fees for orders executed in the closing auctions.[87] Because Cboe Market Close will provide an additional venue to execute MOC orders, the proposal should introduce further competition, which may result in benefits to investors generally. And while some commenters suggested capping closing auction fees to address the lack of competition,[88] Cboe Market Close represents a market-based solution that is designed to foster price competition for MOC orders without impairing the integrity of the primary listing exchanges' closing auctions.

Moreover, in the highly competitive environment of the current national market system with numerous exchanges competing for order flow, it is commonplace for exchanges to attempt to mimic or build upon various functionalities of their competitors.[89] This practice does not, in

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87 See supra notes 36-38 and accompanying text.

88 See supra note 40 and accompanying text.

89 Exchanges regularly file proposed rule changes with the Commission as required under Section 19(b) of the Act and Rule 19b-4 thereunder to adopt, for example, new products, order types, order modifiers, price improvement mechanisms, risk mechanisms, and other functionality that is based upon, and designed to compete with, that of other competing exchanges. Reflecting this commonplace practice, the requirements of Form 19b-4, with which exchanges must comply to file such proposed rule changes, provide that exchanges must, "[s]tate whether the proposed rule change is based on a rule either of another self-regulatory organization or of the Commission, and if so, identify the rule and explain any

and of itself, result in a competitive burden that is not necessary or appropriate in furtherance of the purposes of the Act. While BZX is not proposing to generate its own auction price, it has developed a process that will benefit the market because, based on BZX's representations, it should foster price competition and thereby decrease costs for market participants.[90]

In addition to the proposal's intended effect on price competition, the Commission also believes that the proposal may result in other benefits to market participants generally, including execution quality competition for MOC orders. The Commission believes that implementation of Cboe Market Close could incent other venues, including the primary listing exchanges, as well as ATSs and off-exchange matching venues, to continue to innovate and compete to attract MOC orders to their venues. As noted above, BZX stated that it would be unable to attract MOC order flow solely on the basis of lower execution fees, and asserted that it and the primary listing exchanges would continually need to improve their technology and quality of their MOC order execution offerings in order to compete for such order flow. The proposal would also provide an opportunity for market participants to assess and compare their experience in seeking to execute MOC orders on different national securities exchanges and off-exchange venues, which would foster further competition and may enhance the quality and efficiency of MOC order executions.[91]

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differences between the proposed rule change and that rule…" See Item 8, Form 19b-4, available at: https://www.sec.gov/files/form19b-4.pdf

90 See supra note 29 and accompanying text.

91 See, e.g., ViableMkts Letter at 2 (stating that Cboe Market Close may attract MOC liquidity from market participants that currently may not utilize the primary listing exchanges' closing auctions and that participation by these market participants may also benefit the market more broadly).

The primary listing exchanges argue that the proposal diminishes incentives to invest in enhancements to closing auctions. But, in the Commission's view, the proposal could actually incent these exchanges to innovate and enhance their closing auctions in order to compete for MOC orders despite the additional costs of obtaining a closing execution on the primary listing exchange, to the extent the costs for such executions will indeed be higher than those for Cboe Market Close.[92] Ultimately, the Commission believes that the success of the Cboe Market Close in competing with the primary listing exchanges and off-exchange matching venues for MOC orders will not depend solely on lower fees. Rather, it will depend on a variety of factors, including the quality of the MOC order execution services and the attendant risks and costs associated with such executions.[93]

Among such factors that market participants may consider in determining the venue to which it will send MOC orders are regulatory protections, including Regulation SCI. The requirements of Regulation SCI were designed to strengthen the infrastructure of the U.S. securities markets and improve its resilience when technological issues arise.[94] As NYSE and Nasdaq pointed out, systems used for closing auctions on the primary listing exchanges are "critical SCI systems" under Regulation SCI and as such, are held to heightened requirements under the regulation as compared to "SCI systems." The Commission determined that closing

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92 While Nasdaq also argued that the proposal decreases incentives to serve as a listing exchange if it cannot offset the cost of regulatory responsibilities of being a listing exchange with fees from the closing auction, the Commission finds such argument to be unpersuasive. The Commission believes that the primary listing exchanges have other means to recoup those costs such as using existing fees such as their "Trading Rights Fee," which they have asserted is used to help defray costs of regulating the market.

93 See infra note 195 and accompanying text.

94 See Securities Exchange Act Release No. 73639 (Nov. 19, 2014), 79 FR 72252 (Dec. 5, 2014) ("SCI Adopting Release").

auction systems are critical to the continuous and orderly functioning of the securities markets because they, among other things, establish official closing prices, and therefore they should be subject to an increased level of obligation as compared to other SCI systems.[95] Accordingly, systems that directly support closing auctions on the primary listing exchanges are subject to a two-hour resumption goal following a wide-scale disruption and increased information dissemination provisions following a systems issue.[96]

NYSE and Nasdaq stated that there are additional costs due to compliance with the heightened Regulation SCI requirements for their closing auction systems that would put them at a competitive disadvantage. Although Cboe Market Close systems, as proposed, would also be subject to Regulation SCI as "SCI systems," based on the Regulation SCI rule definitions, they would not be "critical SCI systems," and thus would not be subject to the heightened requirements of the regulation. Similarly, off-exchange MOC matching systems of ATSs and broker-dealers would not be "critical SCI systems" and further, may not be subject to any of the requirements of Regulation SCI if such entities do not meet the definition of "SCI entity" under the regulation.[97] Importantly, Cboe Market Close is not a closing auction, but rather matches and executes MOC orders at a security's official closing price. Accordingly, Cboe Market Close will not serve the same function to the markets as the closing auctions on the primary listing

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95 See SCI Adopting Release at 72277-78. "Critical SCI systems" are defined in Rule 1000 of Regulation SCI to include, among other things, any SCI systems of, or operated by, or on behalf of, an SCI entity that directly support functionality relating to openings, reopenings, and closings on the primary listing market. 17 CFR 242.1000.

96 See 17 CFR 242.1001(a)(2)(v) and 1002(c)(3). See also SCI Adopting Release at 72277.

97 Regulation SCI is not applicable to non-ATS broker-dealers. Further, an ATS is only subject to the requirements of Regulation SCI if it meets certain volume thresholds under the definition of "SCI ATS." See 17 CFR 242.1000.

exchanges. Regulation SCI, by design, takes a risk-based approach, and designates as critical SCI systems those systems that the Commission believes should be subject to the highest level of requirements based on their criticality.[98] The fact that systems would be subject to different requirements of Regulation SCI because of differences in their design, utility, and function does not establish a burden on competition not necessary or appropriate in furtherance of the purposes of the Act.

Additionally, the Commission believes that some market participants could potentially view the lack of these heightened protections for Cboe Market Close as a potential risk that may factor into their determination as to whether to send MOC orders to BZX or to the primary listing exchanges. Commenters, including the listing exchanges, emphasized the importance of the closing auctions to the operation of the markets, and touted such closing auctions' reliability, integrity, stability, and resiliency.[99] As such, the Commission believes that market participants may continue to favor the primary listing exchanges for their MOC order executions, in part, because such critical SCI systems are subject to the heightened protections of Regulation SCI, such that their MOC orders are being handled on trading platforms that are subject to the highest operational resumption standards and are thus designed to be less susceptible to the potential risk of operational outages, instability or other disruptions.

In addition, the primary listing exchanges advanced several theories as to how the proposal could undermine other types of competition, such as intramarket competition, by

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98 In the SCI Adopting Release, the Commission acknowledged that critical SCI systems may be subject to additional costs, but stated that, "by distinguishing critical systems, Regulation SCI is consistent with a risk-based approach that targets areas that would generate the most benefits." SCI Adopting Release at 72411.

99 See, e.g., Nasdaq Letter 1 at 3 and Nasdaq Statement at 4-5. Comment letters from listed issuers also referenced the reliability, strength, and integrity of the closing auction processes on the primary listing exchanges. See, e.g., NBT Bancorp Letter, at 2.

diverting orders away from the primary listing exchanges and thereby preventing such orders from interacting and competing on a primary listing exchange. But this result is not unique to Cboe Market Close. In particular, when one exchange innovates, makes enhancements, or modifies exchange fees, it may result in market participants sending more order flow to one exchange and less volume to other exchanges, thereby potentially decreasing intramarket competition among orders on a particular exchange. Thus, enhancing competition between exchanges will, in many cases, have an inverse effect on intramarket competition. The Commission does not believe this to be an inappropriate burden on competition in this case.

2. Differing Regulatory Standards

a. Comments on the Proposal

Several commenters referenced the Commission's order disapproving a Nasdaq proposal to create a Benchmark Order ("Benchmark Disapproval Order") in arguing that BZX has not satisfied its obligation to demonstrate that the proposal is consistent with the Act.[100] Nasdaq and NYSE characterized the Benchmark Disapproval Order as finding that Nasdaq's proposal would give it an unfair advantage over competing broker-dealers due to regulatory disparities, and the exchanges asserted that similar regulatory disparities exist with BZX's proposal. Specifically, NYSE and Nasdaq argued that the proposal creates a disparate regulatory regime between the primary listing exchanges and BZX because BZX would not be subject to the heightened standards applicable to critical SCI systems under Regulation SCI, nor would BZX be required to make or enforce rules for a closing auction.[101] Nasdaq further argued that the Benchmark

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100 See Securities Exchange Act Release No. 68629 (Jan. 11, 2013), 78 FR 3928 (Jan. 17, 2013) (NASDAQ-2012-059).

101 See NYSE Statement at 17-18; and Nasdaq Statement at 12. See also supra notes 47-52 accompanying text (discussing the regulatory costs of operating a closing auction, including those related to Regulation SCI).

Disapproval Order establishes that "the Commission has been disinclined to approve proposed rule changes in which the exchange cannot clearly articulate how a proposal to offer a service is consistent with the policy goals of the Act with respect to national securities exchanges," and BZX has not done so.[102]

Similarly, SIFMA relied on the Benchmark Disapproval Order in asserting that BZX is proposing to offer a function identical to that currently offered by broker-dealers, yet would benefit from regulatory immunity as well as the limits on liability contained in BZX Rule 11.16.[103] SIFMA stated that, while it supports the proposal, it believes that as a condition of approval, BZX and the Commission should clarify in writing that Cboe Market Close would not be entitled to any application of regulatory immunity and that the Exchange should amend its Rule 11.16 to provide that Cboe Market Close would not be subject to the monetary limits on the Exchange's liability.[104]

With respect to regulatory immunity, SIFMA asserted that both courts and the Commission have stated that regulatory immunity applies only in situations where an exchange is exercising its regulatory authority over its member, pursuant to the Act.[105] SIFMA stated that because Cboe Market Close would not be a self-regulatory function whereby the exchange would be regulating its members, BZX should not be entitled to apply regulatory immunity for any losses arising from the functionality.[106] In addition, SIFMA stated that BZX Rule 11.16

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102 See Nasdaq Letter 1 at 5.

103 See Letter from Theodore R. Lazo, Managing Director and Associate General Counsel, SIFMA (Dec. 8, 2017) ("SIFMA Letter 3") at 2-4.

104 See id. at 1.

105 See id. at 2-3.

106 See id. at 3.

currently limits the liability exposure of the Exchange to its members.[107] SIFMA asserted that BZX's limits on liability set forth in Rule 11.16 "bear no relation to the actual amount of financial loss that could result from an exchange malfunction."[108] SIFMA argued that the "disparity is particularly acute" with respect to the proposal because broker-dealers currently perform services akin to Cboe Market Close without a limitation on their liability.[109] Accordingly, SIFMA stated that, as a condition of operating Cboe Market Close, BZX should carve it out from the liability limits of Rule 11.16.[110]

b. BZX Response to Comments

BZX argued that its proposal does not implicate the same issues as the Benchmark Disapproval Order because the Commission's disapproval rested primarily on its finding that it raised issues under the Market Access Rule.[111] BZX also stated that, unlike Nasdaq's proposal which was designed to compete with the services offered by broker-dealers, it is seeking to compete on price with the primary listing exchanges' closing auctions.[112]

BZX responded to SIFMA's comments on regulatory immunity and its limitation on liability rule by stating that the concerns raised were "not germane to whether the [p]roposal is consistent with the Act," and further stated that it believed it would be inappropriate in the context of a filing on one proposed rule change to set a new standard on an issue that has broad

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107 See BZX Rule 11.16.

108 See SIFMA Letter 3 at 4.

109 See id.

110 See id.

111 See id. at 11.

112 See BZX Letter 1 at 10.

application to all exchange services as well as National Market System Plans.[113] BZX also asserted that SIFMA did not provide any evidence to support its claim that its members have been disadvantaged by the Exchange's limitation of liability rule as compared to limitation on liability provisions in a broker-dealer's contracts with its clients, which often disclaim all liability.[114]

c. Commission Discussion and Findings

The Commission does not believe that the differing regulatory standards applicable to Cboe Market Close and the primary listing exchanges' closing auctions create an unfair burden on competition. This is because, as discussed above, the Commission believes that, Cboe Market Close differs from the primary listing exchanges' closing auctions in design, utility, and function. As also discussed above, the fact that closing auction systems are subject to the heightened requirements of Regulation SCI for critical SCI systems could encourage market participants to send MOC orders to closing auctions on the primary listing exchanges due to the additional regulatory protections required of such systems.[115]

With regard to SIFMA's comments regarding competition with broker-dealer services and the applicability of limitations on liability, the Commission believes Cboe Market Close may compete with the off-exchange matching services operated by broker-dealers.[116] Broker-dealers and national securities exchanges currently compete with respect to a variety of functions and services that they offer to market participants within the current national market system. The

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113 See Letter from Joanne Moffic-Silver, Executive Vice President, General Counsel, and Corporate Secretary, Cboe Global Markets, Inc. (Jan. 3, 2018) ("BZX Letter 3") at 5.

114 See id.

115 See supra notes 94-96 and accompanying text.

116 See BZX Letter 2 at 11.

Commission does not agree with commenters' characterizations that the Benchmark Disapproval Order broadly prohibits such competition or that the existence of different regulatory requirements applicable to exchanges on the one hand, and broker-dealers on the other hand is per se evidence of an unfair competitive advantage. The fact that a national securities exchange proposes to offer functionality that is similar to a service offered by a broker-dealer does not, in and of itself, render such functionality an inappropriate burden on competition. Rather, the proposal must be considered in the broader context of the existing competitive landscape and different regulatory structures applicable to exchanges and broker-dealers under the Act, respectively. In particular, while it is true that BZX may benefit from the protections of its limitations on liability provisions that may not be available to broker-dealers, this must be considered along with the other regulatory requirements imposed on BZX that are not applicable to broker-dealers, such as obligations to enforce compliance by its members and persons associated with its members with the Act, the rules and regulations thereunder, and its own rules, as discussed below, among others.[117] Therefore, with respect to BZX's proposal, the Commission believes that, on balance and in light of the differing requirements under the Act and the rules and regulations thereunder applicable to national securities exchanges and broker-dealers, the limitations on liability available to BZX do not impose an inappropriate burden on competition and the proposal is consistent with Section 6(b)(8) of the Act.

With respect to the judicial doctrine of regulatory immunity, the Commission has taken the position that immunity from suit "is properly afforded to the exchanges when engaged in their traditional self-regulatory functions—where the exchanges act as regulators of their

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117 15 U.S.C. 78s(g)(1). The Commission also notes that MOC orders submitted to other exchanges' closing auctions would similarly be subject to those exchanges' rules governing limitations on liability.

members," including "the core adjudicatory and prosecutorial functions that have traditionally been accorded absolute immunity, as well as other functions that materially relate to the exchanges' regulation of their members," but should not "extend to functions performed by an exchange itself in the operation of its own market, or to the sale of products and services arising out of those functions."[118] The Court of Appeals for the Second Circuit recently reached a similar conclusion.[119] The Commission has also recognized that an exchange's invocation of immunity from suit should be examined on a "'case-by-case basis,' with 'the party asserting immunity bear[ing] the burden of demonstrating [an] entitlement to it.'"[120] For purposes of its consideration of BZX's proposal, the Commission notes, as discussed in further detail below, that BZX represented that it would continue to surveil for potentially manipulative activities and BZX made commitments to enhance its surveillance procedures and work with other SROs to detect and prevent manipulative activity through the use of Cboe Market Close.[121] However, whether and to what extent a court would determine Cboe Market Close to fall within an exchange's traditional regulatory functions depends on an assessment of the facts and circumstances of the particular allegations before it and is beyond the scope of the Commission's consideration of the proposed rule change pursuant to the Act.

B. Price Discovery and Fragmentation

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118 Brief of the Securities and Exchange Commission, Amicus Curiae, No. 15-3057, City of Providence v. Bats Global Markets, Inc. (2d Cir.) ("City of Providence Amicus Br."), at 22.

119 City of Providence v. Bats Global Markets, Inc., 878 F.3d 36 (2d Cir. 2017) ("When an exchange engages in conduct to operate its own market that is distinct from its oversight role, it is acting as a regulated entity—not a regulator. Although the latter warrants immunity, the former does not.").

120 City of Providence Amicus Br. at 21 (quoting In re NYSE Specialists Secs. Litig., 503 F.3d 89, 96 (2d Cir. 2007)).

121 See infra Section III.E.3.c.

Many commenters addressed the potential effects of the proposal on price discovery in the closing auctions on the primary listing exchanges, including the effect of additional fragmentation of MOC interest among multiple execution venues.

1. Effect of MOC Orders on Price Discovery

a. Comments on the Proposal

Some commenters stated that the proposal would harm price discovery in the closing auctions on the primary listing exchanges.[122] For example, Nasdaq argued that BZX's MOC orders would be incapable of contributing to price discovery, and instead would draw orders and quotations away from primary closing auctions and undermine the mechanisms used to set closing prices.[123] Nasdaq asserted that any attempt to divert trading interest from its closing auction would be detrimental to investors as it would inhibit Nasdaq's closing auction from functioning as intended and would negatively affect the price discovery process and,

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122 See, e.g., Letters from: John M. Bowers, Bowers Securities (June 14, 2017) ("Bowers Letter"); Andrew Stevens, General Counsel, IMC Financial Markets (June 30, 2017) ("IMC Letter");; Cameron Bready, Senior Executive VP, Chief Financial Officer, Global Payments Inc. (Aug. 17, 2017) ("Global Payments Letter"); Mike Gregoire, CEO, CA Technologies (Aug. 17, 2017) ("CA Technologies Letter"); Nasdaq Letter 2; NYSE Letter 3; Nasdaq Letter 1; NYSE Letter 1; GTS Letter 2; T. Rowe Price Letter; NBT Bancorp Letter; Sirius Letter; PayPal Letter; NYSE Letter 2; NYSE Statement; and Nasdaq Statement. See also Letter from Representative Sean P. Duffy and Representative Gregory W. Meeks (Aug. 9, 2017) ("Duffy/Meeks Letter"), at 1 (stating that public companies are expressing concern that the proposal will further fragment the market and cause harm to the pricing of their companies' shares at the close and, as such, they are concerned the proposal may disrupt the process for determining the closing price on the primary listing exchange, which is viewed as "an incredibly well-functioning part of the capital markets."). In addition, one commenter urged the Commission to conduct a close analysis of the proposal and stated that if the BZX proposal would seriously degrade the quality of the closing price, then it should be rejected. See Angel Letter.

123 See Nasdaq Letter 1 at 5 and 8 (stating that, for this reason Nasdaq did not believe the proposal promotes fair and orderly markets in accordance with Sections 6 and 11A of the Act); and Nasdaq Letter 2 at 3-7.

consequently, the quality of the official closing price.[124] Nasdaq argued that Cboe Market Close would deprive it of critical information about the supply and demand of Nasdaq-listed securities, and that both the information Nasdaq disseminated about its closing auction and the price-discovery function of the auction would be impaired.[125] Nasdaq stated that even though BZX would disseminate the amount of paired-off shares at 3:35 p.m., Nasdaq would have no way to confirm that the information that BZX would disseminate regarding the amount of matched volume in Cboe Market Close is accurate or ensure that the information is timely disclosed.[126]

Nasdaq also expressed concern that the availability of Cboe Market Close could affect the behavior of limit orders, which Nasdaq asserted would harm price discovery at the market close.[127] In Nasdaq's view, reducing MOC orders in the closing auction could affect the behavior of limit orders by reducing the ability of both continuous book limit orders[128] and LOC orders to compete with each other and to interact with MOC orders, which it asserted is essential to its closing auction.[129] Specifically, Nasdaq contended that if BZX were to disseminate at 3:35

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124 See Nasdaq Letter 1 at 11; and Nasdaq Letter 2 at 5-6. See also Nasdaq Statement at 22. Nasdaq also stated that while BZX does not have a responsibility to contribute to price discovery in Nasdaq's closing auction, it also is obligated to avoid affirmatively undermining price discovery. See Nasdaq Letter 1 at 5. In addition, Nasdaq stated that it considered, but chose not to, disclose segmented information, such as matched MOC or limit-on-close ("LOC") shares, for its closing auction in a piecemeal fashion, because Nasdaq believed it would lead to unintended consequences and undermine price discovery in the closing auction. See id. at 4; and Nasdaq Letter 2 at 6.

125 See Nasdaq Statement at 22.

126 See id. at 23.

127 See Nasdaq Letter 1 at 5 and 11; and Nasdaq Statement at 25-26 (citing Pitt/Spatt Report at 18).

128 A continuous book limit order is a limit order that is eligible for execution during the regular intraday trading session or in the closing auction. See supra note 2.

129 See Nasdaq Letter 2 at 5-6. Nasdaq did not submit any specific data regarding the effect of the proposal on the use of LOC orders.

p.m. that a certain amount of shares were paired-off for execution in Cboe Market Close, but Nasdaq subsequently published little or no paired-off or imbalance shares in its imbalance publications,[130] further participation in the intraday trading session leading up to the closing auction and in the closing auction could be discouraged, and thus there would be little ongoing price discovery, because market participants would know they would not have the ability to interact with market orders.[131] Nasdaq contrasted the BZX proposal with its own closing auction process, arguing that after Nasdaq disseminates an imbalance notification that combines MOC and LOC orders, market participants can continue to submit orders to interact with existing auction interest.[132] In addition, Nasdaq submitted the Pitt/Spatt Report, which asserted that the proposal would detrimentally affect Nasdaq closing auctions by preventing MOC orders from engaging with price-sensitive orders (LOC orders or imbalance-only orders) and by altering the behavior of market participants whose MOC orders went unfilled on BZX.[133]

Moreover, Nasdaq argued that even if the proposal only resulted in fewer MOC orders submitted to Nasdaq closing auctions, investors would be harmed because the official closing price could potentially represent a stale or undermined price.[134] Nasdaq asserted that its closing

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130 Nasdaq publishes an "Order Imbalance Indicator" which includes, among other things, the price at which the maximum number of shares of orders eligible for participation in its closing auction could execute as well as the size of any imbalance. See Nasdaq Rule 4754(a)(7).

131 See Nasdaq Letter 2 at 6.

132 See id.

133 See Pitt/Spatt Report at 15–19.

134 See Nasdaq Letter 1 at 12. See also Nasdaq Letter 2 at 6 (providing an example of how Nasdaq believes the proposal could cause a stale closing price). Nasdaq also stated that a credible independent study of the potential risk to price discovery is essential in order to consider whether the proposal is consistent with the Act. See Nasdaq Letter 1 at 12.

auction is designed to maximize the number of shares that can be executed at a single price and that the number of MOC orders affects the number of shares able to execute in a closing auction.[135] Nasdaq added that because Cboe Market Close would undermine closing auction price discovery, Cboe Market Close would also inhibit efficient capital allocation and thereby impair capital formation.[136]

Nasdaq also argued that the proposal would harm price discovery because fragmentation of MOC orders would directly affect closing auctions for which Nasdaq only received MOC orders. Nasdaq contended that, if all those MOC orders were removed from the Nasdaq closing auction, the last sale price would become the official closing price, as opposed to the price being determined through the price discovery process of its closing auction.[137] Nasdaq discussed several hypothetical examples where removal of all MOC orders from certain of its previously conducted closing auctions would have resulted in use of the last sale price as the official closing price and provided aggregated statistics denoting the differential between the last sale price and the official closing price in such situations.[138] The examples provided assume that the BZX proposal would result in no market participants choosing to send any MOC orders to the primary listing exchanges' closing auctions. Nasdaq asserted this would be the case because market

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135 See id. at 11. Nasdaq submitted a memorandum providing, among other things, data relating to the level of matched MOC volume in Nasdaq closing auctions spanning the period of January 1, 2017 through September 30, 2017 ("Nasdaq Data Memo").

136 See Nasdaq Statement at 37.

137 See Nasdaq Letter 2 at 3; and Nasdaq Statement at 23-24.

138 See Nasdaq Letter 2 at 3-5; and Nasdaq Statement at 23. Specifically, Nasdaq identified 1,653 closing crosses between January 1, 2016, and August 31, 2017, where removal of all MOC orders would have changed the closing prices. Nasdaq asserts that this would have changed the closing valuation of Nasdaq issuers "by nearly $870,000,000 of aggregate impact."

participants would choose to submit their MOC orders to the lower cost execution venue.[139] Further, both Nasdaq and NYSE explained that if the fees set by BZX for Cboe Market Close were lower than the primary listing exchanges and there was no competitive response by the primary listing exchanges, a likely outcome would be that market participants would choose to submit their MOC orders to BZX.[140]

The Pitt/Spatt Report submitted by Nasdaq states that, according to formal auction theory, the auction price and bidding behaviors of auction participants are determined by the rules of the auction.[141] The Pitt/Spatt Report asserts that the price and bidding behaviors in the closing auction on the primary listing exchange (such as the Nasdaq closing auction) will change if a competing earlier auction (such as the Cboe Market Close) is introduced, even though the rules in the closing auction on the primary listing exchange are unchanged. According to the Pitt/Spatt Report, one way in which bidding behavior is affected is that traders with MOC orders may reallocate those orders to the Cboe Market Close to obtain an earlier matching resolution at 3:35 p.m. while still retaining the ability to participate in the Nasdaq closing auction. According to the report, this change in bidding behavior would then affect the closing price on the listing exchange for two reasons. First, the "proposed [Cboe] Market Close would prevent the direct interaction of the siphoned-off orders with price sensitive orders, which are at the heart of true

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139 See Nasdaq Statement at 25. While NYSE asserted that one "plausible outcome" of the BZX proposal is that the majority of MOC orders would migrate to Cboe Market Close, it acknowledged that it was "hard to predict what would happen if the [BZX] proposal were to be approved." See Assessment of the DERA Analysis conducted by D. Timothy McCormick, Ph.D. (Jan. 11, 2018) ("NYSE Report"), at 22.

140 Id. See also Nasdaq Statement at 24.

141 See Pitt/Spatt Report at 15.

'price discovery,' and necessarily would influence the determination of the closing price."[142] Second, participants in the Cboe Market Close, "[a]rmed with information about the extent to which the matching efforts were successful (or unsuccessful), …would potentially alter the aggressiveness with which they would engage in the Nasdaq Market Close after the conclusion of the [Cboe] Market Close at 3:35 p.m."[143]

NYSE argued that even though Cboe Market Close would only accept MOC orders, it could materially affect official closing prices determined through a NYSE closing auction.[144] NYSE emphasized the importance of the centralization of orders during the closing auction on the primary listing exchange.[145] NYSE, as well as Nasdaq, also asserted that the proposal contradicts the Commission's approval of amendments to the National Market System Plan to Address Extraordinary Market Volatility (the "LULD Plan") which, they argue, centralized re-opening auction liquidity at the primary listing exchange by prohibiting other market centers from re-opening following a trading pause until the primary listing exchange conducts a re-opening auction.[146] These commenters asserted that it would be inconsistent for the Commission to find it in the public interest to consolidate trading in a re-opening auction, while sanctioning fragmentation of trading in a closing auction.[147]

NYSE stated that producing a reliable and accurate closing price for a security requires transparency into the "full information" about the volume of buy and sell orders and the extent of

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142 See id. at 17-18.

143 See id. at 17.

144 See NYSE Letter 1 at 3; and NYSE Statement at 23.

145 See NYSE Statement at 21. See also NYSE Report at 12; and NYSE Letter 1 at 4.

146 See Nasdaq Letter 1 at 6; NYSE Letter 1 at 3; and Nasdaq Letter 2 at 12.

147 See Nasdaq Letter 1 at 6; NYSE Letter 1 at 3; and Nasdaq Letter 2 at 12.

any imbalances.[148] NYSE also stated that the closing auction is "an iterative process" that provides "periodic information about order imbalances, indicative price, matched volume, and other metrics" to help market participants anticipate the likely closing price, and that allows for investors to find contra-side liquidity and assess whether to offset imbalances, and for orders to be priced based on the true supply and demand in the market.[149] NYSE added that market participants rely on information disseminated by the primary listing exchanges to make trading decisions in the continuous market before the closing auction as well as to determine the price, size, and type of on-close orders they choose to enter, all of which "ultimately determine the closing price."[150] NYSE stated that not disclosing to market participants the balance of unmatched MOC volume submitted to Cboe Market Close would deprive closing auction market participants of "core data necessary" to the auction's normal functioning.[151]

NYSE also asserted that information to be disseminated by BZX on the amount of matched MOC volume could discourage liquidity providers from participating in the closing process because they would surmise that their orders would be less likely to interact with market orders in the closing auction.[152] NYSE also argued that its DMMs would lose full visibility into the size and composition of MOC interest, and thus would likely have to make more risk-adverse

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148 See NYSE Statement at 21.

149 See NYSE Report at 12. See also NYSE Letter 1 at 4.

150 See NYSE Statement at 21-22.

151 See id. at 22.

152 See NYSE Report at 13 and 23; and NYSE Statement at 23. See also NYSE Report at 12 (arguing that "[a]nticipation that there will be MOC orders in the closing auction is a critical component feeding into the decisions of liquidity providers and other market participants" trading in the closing auction).

closing decisions, resulting in inferior price formation.[153] Other commenters asserted that the proposal would make it more difficult for DMMs to facilitate an orderly close of NYSE listed securities as they would lose the ability to continually assess the composition of MOC interest.[154] Many of these commenters, all of whom are issuers listed on NYSE, asserted that one of the reasons they chose to list on NYSE was the ability to have access to a DMM that is responsible for facilitating an orderly closing auction.[155]

NYSE also argued that the proposal would detrimentally affect price discovery on the NYSE Arca and NYSE American automated closing auctions. NYSE stated that in the six months prior to June 2017 there were 130 instances where the official closing price determined

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153 See NYSE Letter 1 at 4. See also NYSE Statement at 22. GTS, a DMM on NYSE, argued that MOC orders are a vital component of closing prices and that the types of orders submitted to the closing auction, such as limit or market, also affect its pricing determinations. See GTS Securities Letter 1 at 2-3; and GTS Securities Letter 2 at 3. In response to this assertion, ViableMkts argues that use of Cboe Market Close is voluntary. Accordingly, if a market participant wanted a DMM to be aware of their closing activity they could still send their orders to the NYSE closing auction. See ViableMkts Letter at 4.

154 See, e.g., GTS Securities Letter 1 at 2-3; Letter from Jay S. Sidhu, Chairman, Chief Executive Officer, Customers Bancorp, Inc. (June 27, 2017) ("Customers Bancorp Letter"); Letter from Joanne Freiberger, Vice President, Treasurer, Masonite International Corporation (June 27, 2017) ("Masonite International Letter"); IMC Letter at 1-2; and Letter from Daniel S. Tucker, Senior Vice President and Treasurer, Southern Company (July 5, 2017) ("Southern Company Letter"). Several commenters also asserted that the proposal would have potentially detrimental effects on NYSE floor brokers. See Bowers Letter; Letter from Jonathan D. Corpina, Senior Managing Partner, Meridian Equity Partners (June 16, 2017); Letter from Fady Tanios, Chief Executive Officer, and Brian Fraioli, Chief Compliance Officer, Americas Executions, LLC (June 16, 2017) ("Americas Executions Letter"); and GTS Securities Letter 2 at 4.

155 See, e.g., Masonite International Letter; Letter from Sherri Brillon, Executive Vice-President and Chief Financial Officer, Encana Corporation (June 29, 2017); Letter from Steven C. Lilly, Chief Financial Officer, Triangle Capital Corporation (June 29, 2017); and Letter from Robert F. McCadden, Executive Vice President and Chief Financial Officer, Pennsylvania Real Estate Investment Trust (June 29, 2017).

through a NYSE Arca closing auction was based entirely on paired-off market order volume.[156] In those instances, pursuant to NYSE Arca rules, "the Official Closing Price for that auction is the midpoint of the Auction NBBO as of the time the auction is conducted."[157] NYSE stated that if all market orders for a NYSE Arca listed security were sent to BZX, the official closing price would instead be the consolidated last sale price, which can differ from the midpoint of the Auction NBBO by as much as 3.2%.[158]

Multiple commenters stated that one of the benefits of a centralized closing auction conducted by the primary listing exchange is that it allows market participants to fairly assess supply and demand such that the closing prices reflect both market sentiment and total market participation.[159] Because they believed that the proposal may cause orders to be diverted away from the primary listing exchanges, these commenters argued that it would negatively affect the reliability and value of closing auction prices. Several commenters further argued that

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156 See NYSE Letter 1 at 5. See also NYSE Report at 11-12.

157 See NYSE Letter 1 at 5. NYSE Arca Rule 7.35-E(a)(5) defines "Auction NBBO" to mean "an NBBO [National Best Bid and Offer] that is used for purposes of pricing an auction. An NBBO is an Auction NBBO when (i) there is an NBB [National Best Bid] above zero and NBO [National Best Offer] for the security and (ii) the NBBO is not crossed."

158 See NYSE Letter 1 at 5.

159 See Bowers Letter; Americas Executions Letter; Letter from Mickey Foster, Vice President, Investor Relations, FedEx Corporation (July 14, 2017); and Nasdaq Statement at 21. See also, e.g., Letter from Rob Bernshteyn, Chief Executive Officer, Chairman of the Board of Directors, Coupa Software, Inc. (July 12, 2017) ("Coupa Software Letter"); Letter from Jeff Green, Founder, Chief Executive Officer and Chairman of the Board of Directors, The Trade Desk Inc. (July 26, 2017) ("Trade Desk Letter"); and Global Payments Letter.

centralized closing auctions provide better opportunities to fill large orders with relatively little price impact.[160]

In contrast, several commenters stated that the proposal would not negatively affect price discovery in the primary listing exchanges' closing auctions because Cboe Market Close would only execute MOC orders that can be paired-off against other MOC orders, and not orders that directly affect price discovery, such as limit orders, including LOC orders.[161] Some of these commenters also argued that, because BZX will publish the size of matched MOC orders in advance of the primary listing exchange's cut-off time, market participants would have available information needed to make further decisions regarding order execution, and thus price discovery would not be impaired.[162]

b. BZX Response to Comments

In response to concerns regarding the effect of the proposal on the price discovery process, BZX argued that it expects the Cboe Market Close would have no effect on price discovery because the proposal would only match MOC orders and would require the Exchange to publish the number of matched shares in advance of the primary listing exchanges' cut-off times on a data feed that is available free of charge.[163] BZX also stated that it does not believe

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160 See, e.g., Bowers Letter; Customers Bancorp Letter; and Letter from David B. Griffith, Investor Relations Manager, Orion Group Holdings, Inc. (June 27, 2017) ("Orion Group Letter").

161 See PDQ Letter; Clearpool Letter at 3; Virtu Letter at 2; SIFMA Letter 1 at 2; IEX Letter at 1-2; Angel Letter at 4; ViableMkts Letter at 3-4; and Bollerman Letter at 1. See also SIFMA Letter 2 at 1-2.

162 See Clearpool Letter at 3; SIFMA Letter 1 at 2; IEX Letter at 2; Angel Letter at 4; ViableMkts Letter at 3; and SIFMA Letter 2 at 1.

163 See BZX Letter 1 at 3-4; BZX Letter 2 at 2 and 10; and BZX Statement at 9-10. In addition, BZX offered to disseminate this information via the applicable securities

the proposal would affect the use of LOC orders on the primary listing exchanges as LOC orders provide price protection, by restricting the price at which the order can execute to a price that is the same or better than the LOC order's limit price. BZX stated that it does not believe that the lower fees charged to MOC orders that participate in Cboe Market Close would outweigh the risk of receiving an execution at an unfavorable price.[164] BZX further challenged commenters' concerns that Cboe Market Close could pull all MOC orders away from the primary listing exchanges and alter the calculation of the closing price, stating that such a scenario could occur today as a result of competing closing auctions and broker-dealers that offer internal MOC order matching solutions.[165]

In response to NYSE and Nasdaq comments regarding the consistency of the Cboe Market Close with Amendment 12 of the LULD Plan, BZX asserted that while the amendment to the LULD Plan cited by NYSE and Nasdaq granted the primary listing exchange the ability to set the re-opening price, the amendment did not mandate the consolidation of orders at the primary listing exchange following a trading halt.[166] BZX believes the proposal is consistent with the LULD Plan as it seeks to avoid producing a "bad" or "outlier" closing price and does not affect the centralization of price-setting closing auction orders.[167]

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information processor, in addition to the Cboe Auction Feed. See BZX Letter 1 at 4 and 12-13; and BZX Letter 2 at 2.

164 See BZX Letter 2 at 3.

165 See BZX Letter 1 at 4-5 (stating that neither NYSE nor Nasdaq prohibits their members from withholding MOC orders from their closing auctions); and BZX Letter 2 at 2-3.

166 See BZX Letter 1 at 8-9. See also Bollerman Letter at 3.

167 See BZX Letter 1 at 8-9.

In response to NYSE's arguments regarding the effect on a DMM's ability to price the close, BZX argued that this point highlights what it believes to be an additional benefit of allowing it to compete with NYSE's closing auction.[168] Specifically, BZX argued that NYSE's assertion that DMMs consider the composition of closing interest in making pricing decisions "suggests that the NYSE closing auction is not a true auction and can be an immediate detriment to users sending MOC orders of meaningful size to the NYSE."[169] Accordingly, BZX stated that it believed Cboe Market Close would offer a beneficial alternative pool of liquidity and execution mechanism for large MOC order senders.[170]

c. Commission Discussion and Findings

The Commission has carefully analyzed and considered the proposal's potential effects, if any, on the primary listing exchanges' closing auctions, including their price discovery functions, and the reliability and integrity of closing prices. The Commission finds that BZX has demonstrated that based on the design of the proposal, Cboe Market Close should not disrupt the price discovery process in the closing auctions of the primary listing exchanges.[171]

Importantly, Cboe Market Close will only accept, match, and execute unpriced MOC orders with other unpriced MOC orders (i.e., paired-off MOC orders). Contrary to some commenters' assertions that MOC orders contribute to the determination of the official closing

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168 See BZX Letter 1 at 10.

169 Id. See also supra note 153 and accompanying text.

170 BZX Letter 1 at 10. In response, NYSE argued that BZX's claims regarding the role of the DMM were not germane to whether the proposal is consistent with the Act and stated that it believed the scale of its closing auction and the low levels of volatility observed in the auction demonstrate its effectiveness. See NYSE Letter 2 at 4.

171 For these reasons, the Commission also believes the proposal will not impair capital formation. See supra note 136.

price, the Commission believes that paired-off MOC orders, which do not specify a price but instead seek to be executed at whatever closing price is established via the primary listing exchange's closing auction, do not directly contribute to setting the official closing price of securities on the primary listing exchanges but, rather, are inherently the recipients of price formation information.[172] As many commenters stated, the price determined in a closing auction is designed to be a reflection of market supply and demand, and closing auctions are designed to set closing prices that maximize the number of shares executed and minimize the amount of the imbalance between buy and sell interest (i.e., demand and supply). The orders that actively participate in, and contribute to, the price formation process in a closing auction would be orders that specify a desired execution price such as LOC orders, imbalance-only orders, and other limit (priced) orders that may participate in the closing auction. In addition, unpaired MOC orders may contribute to price formation because they suggest an imbalance of supply or demand. Thus, none of the orders that could influence the formation of the official closing price in a closing auction would be executed in the Cboe Market Close and could continue to be submitted to the primary listing exchange.

The orders identified above affect the determination of an official closing price because they directly affect the total number of shares that are executed in an auction. More specifically, a limit order or LOC order would only execute in a closing auction if the official closing price is at or better than that order's limit price. In addition, in a closing auction, the imbalance amount of MOC orders (i.e., unpaired MOC orders) would only execute if there was limit order trading interest (e.g., LOC orders or imbalance-only orders) on the opposite side of the unpaired MOC

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172 See supra notes 134-153 (discussing Nasdaq's and NYSE's arguments of how MOCs can contribute to the closing price).

orders that was eligible to execute in the closing auction.[173] In contrast, as BZX and commenters stated,[174] executing paired-off MOC orders in the manner BZX proposes would not affect the net imbalance of closing eligible trading interest because only paired-off MOC orders, and not the orders identified above that actively participate in, and contribute to, the closing auction price formation process, would be executed in Cboe Market Close. Accordingly, the proposal should not disrupt the price discovery process and closing auction price formation.

Several commenters made assertions that matched MOC order flow provides informational content regarding the depth of the market that indicates true supply and demand and contributes to market participants' decisions regarding order submission and ultimately price formation.[175] But BZX proposes to publish and disseminate the size of matched MOC orders at 3:35 p.m., which is well in advance of the order entry cut-off times for the primary listing exchanges' closing auctions.[176] Market participants seeking to ascertain closing auction liquidity supply and demand could incorporate that information with any pertinent information disseminated by the primary listing exchanges. Therefore, the Commission believes that the information disseminated by BZX could be used by market participants in conjunction with the information disseminated by the primary listing exchange to make order submission decisions.

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173 In other words, if there was a buy MOC order that could not be executed against a sell MOC order, the buy MOC order would only execute in the closing auction if there was a sell limit order that was able to execute in the closing auction. See, e.g., ViableMkts Letter at 3-4 (providing examples that illustrate how executing paired-off MOC orders in the primary listing exchange's closing auction or on a different venue does not ultimately impact the price discovery process in the closing auction because only MOC orders that cannot be paired-off with other MOC orders are eligible to execute against limit orders in a closing auction).

174 See, e.g., Notice at 23321; ViableMkts Letter at 3-4; and Virtu Letter at 2.

175 See supra notes 149-153 and 159 and accompanying text.

176 See supra note 23.

And the Commission disagrees with NYSE that, in order for the Commission to approve the proposed rule change, BZX should also disclose the balance of unpaired shares that were submitted to Cboe Market Close.[177] NYSE stated that market participants use the imbalance information published by the primary listing exchanges--which includes information on available, actionable liquidity-- to make order submission decisions. However, unpaired shares on Cboe Market Close would represent only a subset of cancelled buying and selling interest that is no longer actionable and therefore, in the absence of any data or further justification to the contrary, the Commission does not believe that publishing this information would have a meaningful effect on the closing auction price formation process.

Furthermore, the Commission does not find Nasdaq's concern regarding its inability to confirm the accuracy of information disseminated by BZX compelling. A fundamental aspect of the national market system is reliance by national securities exchanges on information disseminated by another exchange, supplemented by Commission oversight of such legally enforceable obligations. Indeed, all national securities exchanges, including Nasdaq, regularly rely on information disseminated by other national securities exchanges in other contexts, such as for the handling, routing, and execution of orders.[178]

The Pitt/Spatt Report argues that, according to formal auction theory, bidding behaviors and closing price outcomes will be affected by the introduction of the Cboe Market Close. But, even if some market participants choose to send their MOC orders to the Cboe Market Close, the

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177 NYSE did not explain why it believed that MOC imbalances in Cboe Market Close would be important information.

178 See, e.g., Nasdaq Rule 4759 (which states that Nasdaq consumes quotation data from proprietary exchange data feeds for the handling, routing, and execution of orders, as well as for regulatory compliance processes related to those functions).

Commission believes that closing price efficiency is unlikely to be affected.[179] The official closing price established through the closing auction on the primary listing exchange is ultimately determined by the intersection of supply and demand, and the price does not change if an equal number of shares from MOC buy orders and MOC sell orders are executed away from the auction. If an unequal number of shares from MOC buy orders and MOC sell orders are sent to Cboe Market Close, then the shares that were not paired-off in Cboe Market Close are likely to be resubmitted back to the closing auction on the primary listing exchange. This is because the traders who would send MOC orders to Cboe Market Close instead of the closing auction on the primary listing exchange have a revealed preference for obtaining the closing price for such orders. If the trader fails to be paired-off on Cboe Market Close, then resubmitting their order to the closing auction on the primary listing exchange remains their primary option for obtaining the closing price.

It is possible that the unpaired shares from Cboe Market Close could be sent to a broker-dealer who offers off-exchange executions at the closing price. However, as a general matter, data show that most traders do not execute orders at the official closing price by trading off-exchange with broker-dealers.[180] That is, the data indicate that most traders have a revealed preference for trading in the official closing auction on the primary listing exchange over trading off-exchange with a broker-dealer at the official closing price. Thus, the Commission believes that the addition of the Cboe Market Close would not change this preference for trading in the official closing auction on the primary listing exchange over trading off-exchange with a broker-dealer, even if the trader ultimately chooses to trade in Cboe Market Close over both of these

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179 Price efficiency is a measure of the quality of the closing price that is designed to assess whether the closing price reflects all relevant information.

180 See infra note 194 and accompanying text.

options. Finally, although it is possible that the trader who fails to execute in the Cboe Market Close could submit their order to the regular intraday trading session between 3:35 p.m. and 4:00 p.m., the Commission views this possibility as unlikely because, by virtue of sending a MOC order to Cboe Market Close, the trader has a revealed preference in executing at the official closing price, which is not guaranteed in the regular intraday trading session. Thus, the unpaired shares from the Cboe Market Close are likely to be resubmitted back to the official closing auction, and the Commission therefore believes that the closing price on the primary listing exchange is likely to remain unaffected by the Cboe Market Close.

Some commenters also argued that the proposal would affect the submission of LOC orders to the primary listing exchanges. But as BZX stated, LOC orders by their terms specify a price and therefore provide price protection. Thus, utilization of a LOC order suggests that a market participant is price sensitive and uniquely interested in obtaining an execution at, or better than, its specified price. By contrast, MOC orders do not specify a price and are submitted by market participants who may be less price sensitive and who may prioritize other aspects of a closing execution over price.[181] In addition, the cut-off times for submitting LOC orders to the primary listing exchanges are later in the trading day than the Cboe Market Close cut-off time. As such, the Commission does not believe that, solely on the basis of lower fees, it is likely that market participants would be more inclined to assume the risk of submitting MOC orders to the Cboe Market Close at or before 3:35 p.m. in circumstances where they otherwise would have submitted price-protected LOC orders into the primary listing exchanges' closing auctions later in the day.

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181 See also BZX Letter 2 at 3.

As discussed above, Nasdaq and NYSE also asserted that the Cboe Market Close could discourage submission of orders in the intraday trading session and closing auctions in certain circumstances, such as if there were a large amount of paired-off MOC orders in Cboe Market Close and a subsequent lack of imbalance information disseminated on the primary listing exchanges.[182] However, the Commission does not believe the availability of the Cboe Market Close would increase this risk beyond what currently exists. Again, Cboe Market Close would only execute paired-off MOC orders and therefore would not affect the net imbalance of MOC orders. And the Commission believes that the submission of orders could similarly be discouraged today if a large amount of MOC orders in a security had been paired-off on the primary listing exchange and there was little or no resulting imbalance disseminated by such exchange in their order imbalance indications. Irrespective of the exchange upon which the MOC orders are paired-off, the net imbalance published by the primary listing exchange would be expected to be the same. Moreover, because Cboe Market Close would publish the volume of paired-off MOC orders 15 minutes prior to the current NYSE MOC order entry cut-off time and 20 minutes prior to the current Nasdaq MOC order entry cut-off, market participants should have sufficient time to incorporate information relating to the levels of MOC interest paired-off in the Cboe Market Close in a given security into their decisions about order submissions into the closing auctions.

The Commission also disagrees with commenters that asserted that the proposal would inhibit DMMs' ability to establish closing prices because they would no longer have full visibility into the size and composition of MOC interest.[183] First, DMMs currently do not have

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182 See supra notes 129-131 and 152 and accompanying text.

183 See supra note 153 and accompanying text.

full visibility into the composition of MOC interest, because they currently have no visibility into MOC interest traded on off-exchange venues. Thus, the proposal would not alter the information DMMs have relating to MOC interest executed off-exchange. Second, as already discussed above, the Commission believes that market participants, including DMMs, will have access, via the Cboe Auction Feed, to the amount of paired-off MOC volume on BZX well in advance of NYSE's order entry cut-off time and the start of the NYSE closing auction. A NYSE DMM could, for example, use the Cboe Market Close disseminated information regarding paired-off MOC interest for a given security in conjunction with information disseminated by the primary listing exchange in establishing the relevant context for any imbalances in NYSE closing auctions and calculating appropriate closing prices.[184] Moreover, the Commission believes that, as BZX stated, the Cboe Market Close could benefit market participants that do not wish to disclose information regarding their orders to DMMs by providing another venue to which they may send their orders for execution at the closing price.[185]

Nor does the Commission agree with those commenters that argued that the proposal contradicts the Commission's approval of Amendment 12 to the LULD Plan.[186] As stated above, NYSE and Nasdaq asserted that it would be contradictory for the Commission to find it in the public interest in Amendment 12 of the LULD Plan to require the centralization of re-opening

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184 In addition, one commenter that is supportive of the proposal is a DMM on NYSE who stated that the proposal ensures that the price discovery process remains intact because BZX would only match buy and sell MOC orders and not limit orders, which it stated, ultimately lead to price formation. See Virtu Letter at 2.

185 See supra notes 168-170 and accompanying text.

186 See supra note 149 (discussing comments arguing that it would be inconsistent for the Commission to find it in the public interest to consolidate trading in a re-opening auction, while sanctioning fragmentation of trading in a closing auction).

auction liquidity at the primary listing exchange, but sanction the execution of closing auction trading interest on a venue other than the primary listing exchange.[187] However, the LULD Plan does not mandate that market participants consolidate their orders at the primary listing exchanges, but rather requires that a trading pause continue until the primary listing exchange has re-opened trading.[188] While trading may not begin until the re-opening on the primary listing exchange, market participants continue to have the choice as to where to submit their orders. Likewise, with respect to Cboe Market Close, official closing prices would continue to be determined through the closing auctions conducted by the primary listing exchanges. However, market participants would have the choice to submit their orders to Cboe Market Close or a closing auction on a primary listing exchange to obtain an execution at the official closing price.

As discussed above, NYSE and Nasdaq argued that if the proposed rule change resulted in the removal of all MOC orders from the primary listing exchanges' closing auctions, and circumstances arose such that due to other factors no closing auction could be held, in accordance with NYSE Arca's and Nasdaq's rules the official closing price would be the consolidated last sale price.[189] NYSE and Nasdaq provided data and, in the case of Nasdaq, counterfactual examples,[190] that sought to quantify the extent to which last consolidated sale prices would have differed from closing prices determined through closing auctions. NYSE and

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187 See supra notes 146-147 and accompanying text.

188 See Securities Exchange Act Release No. 79845 (Jan. 19, 2017), 82 FR 8551, 8552 (Jan. 26, 2017). See also BZX Letter 1 at 8-9; and Bollerman Letter at 3.

189 See Nasdaq Letter 2 at 3; NYSE Letter 1 at 5. See also, e.g., NYSE Rule 123C(1)(e); NYSE Arca Rule 1.1(ll)1.

190 See supra note 138 and accompanying text (stating that Nasdaq identified previously conducted closing auctions that consisted entirely of MOC orders and described what it believed the official closing price would have been had no MOC orders been submitted to those closing auctions).

Nasdaq argue that these examples show that price discovery would be harmed if they were unable to conduct closing auctions because they did not receive any MOC orders and there was no other closing auction-eligible trading interest. However, the Commission believes that differences in prices alone are not dispositive of effects with respect to price discovery or efficiency, and it is not clear that the data NYSE and Nasdaq submitted actually reflects an effect on price discovery.

First, the data and analyses that commenters provided did not analyze subsequent price changes on the next trading day following the closing auction. Thus, it is unclear whether the price differentials between the official closing price and the price of the last sale prior to the closing auction indicate better or worse price discovery or efficiency. A large difference between a reference price (e.g., the last sale price) and the official closing price may reflect relevant market information if the official closing price persists to the next trading day, or it may reflect a temporary price pressure if the official closing price subsequently reverses to the reference price on the next trading day.[191] Second, when comparing price differences across securities, the analyses did not distinguish whether the observed differences were due to the removal of MOC orders from the primary listing exchange or due to liquidity differences. And because Nasdaq's analysis involved only 1,653 closing crosses that occurred between January 1, 2016, and August 31, 2017 (which the Commission estimates accounts for approximately 0.44% of all Nasdaq closing auctions over that time period) the Nasdaq analysis may not be a representative sample.[192] Finally, Nasdaq did not address the liquidity of the securities analyzed. If the securities analyzed were highly illiquid, price differences between the last sale price and

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191 See, e.g., Joel Hasbrouck, "Measuring the Information Content of Stock Trades," Journal of Finance 46, 179-207 (1991), available at www.jstor.org/stable/2328693.

192 See supra note 138.

the closing auction price may have been large for reasons unrelated to the specifics of the auction mechanism.[193] Given these limitations, the data and analysis provided in these comments do not alter the Commission's conclusion that the proposal is consistent with the Act.

In addition, the Commission acknowledges that it may be possible that following implementation of the Cboe Market Close there could be instances in which no MOC orders participate in a primary listing exchange's closing auction. But the fact that the majority of MOC orders today continue to be executed in the closing auctions on the primary listing exchanges[194] despite the numerous destinations currently available to which MOC orders may be sent (including primary listing exchange auctions, competing closing auctions, ATSs, and other off-exchange venues) suggests that at least some market participants base decisions regarding where to send closing orders not solely on fees, but rather on many other factors, including the reliability, stability, technology and surveillance associated with such auctions.[195] Similarly, in assessing whether to utilize Cboe Market Close, market participants may evaluate other consequences of using the proposed mechanism, such as by monitoring the extent to which their orders were matched or not matched on BZX (with the resulting need to send their MOC orders

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193 See id. See also NYSE Report at 12 ("The difference between the last sale price in the continuous market and the closing auction price, particularly for less active securities where the last sale price may be stale, can be significant.").

194 See Memorandum to File from DERA, Bats Market Close: Off-Exchange Closing Volume and Price Discovery, dated December 1, 2017 ("DERA Analysis"), available at https://www.sec.gov/files/bats_moc_analysis.pdf (finding that, on average, approximately 9.3% of closing volume is matched off-exchange at the primary listing exchange's closing price); NYSE Report at 22 (stating that closing auctions on the listing exchanges currently process the vast majority of the MOC and LOC orders in the market); and Nasdaq Data Memo (providing data relating to the level of matched MOC volume in Nasdaq closing auctions).

195 See generally, Nasdaq Letter 1 at 3-4 (asserting that the Nasdaq closing cross has been successful due to its integrity, stability, reliability, and regulation).

to more than one venue if not matched), as well as the opportunity cost incurred by committing to transact at the closing price at an earlier time than they otherwise would have had they chosen to send their MOC orders to the primary listing exchanges. Moreover, should market participants choose to send a substantial portion of MOC orders to the Cboe Market Close, the primary listing exchanges have various other options available to them to try to compete for such orders, for example, through improvements to their auction processes or through modifications to their fee structures, and it is unlikely that such exchanges would choose to accept the complete loss of MOC order market share and make no attempt at a competitive response.

Further, the use of the consolidated last sale price as the official closing price in situations when a primary listing exchange does not conduct a closing auction is not mandated by the Act or rules thereunder, but rather is established by the rules of that exchange.[196] Therefore, if a primary listing exchange believes that such prices no longer reflect an appropriate closing price in those scenarios, it is within the exchange's discretion to reevaluate whether reliance on the last consolidated sale price is the appropriate means for determining the official closing price in such scenarios. An exchange may, at any time, file a proposed rule change to amend its rules to establish alternative methods that it believes to be more appropriate for determining the official closing price should no auction be held.

2. Off-Exchange MOC Activity and Fragmentation

a. Comments on the Proposal

Commenters, including Nasdaq and NYSE, also argued that the proposal is inconsistent with Section 6(b)(5) of the Act because it would fragment the markets beyond what currently occurs through off-exchange closing price matching by broker-dealers. Nasdaq and NYSE

196 See, e.g., NYSE Rule 123C(1)(e); and NYSE Arca Rule 1.1(ll)(1)(C).

stated that such off-exchange activity is structurally different from Cboe Market Close and thus asserted that it would be inappropriate to analogize to such off-exchange activity in evaluating the proposal.[197] Nasdaq stated that the proposal would introduce a new category of price-matching venues, and that as a neutral trading platform, an exchange such as BZX is capable of attracting and aggregating more liquidity than a broker-dealer which would exacerbate the harm caused by fragmentation.[198] In the Pitt/Spatt Report, Nasdaq added that the underlying structure of off-exchange markets is different from the proposal in various respects.[199] Moreover, according to Nasdaq, trades resulting from broker-dealer off-exchange activity are often also involved in the closing auction on the primary listing exchange, thus also contributing to closing auction price discovery.[200] Both Nasdaq and NYSE argued that it should not be assumed that the current level of MOC orders executed away from the primary listing exchange is a reasonable proxy for the effect of the proposal.[201] Nasdaq and NYSE stated that broker-dealers that execute MOC orders on behalf of clients at the closing price could be risking their own capital on such

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197 See, e.g., Nasdaq Letter 2 at 13; and NYSE Report at 10. GTS further stated that it believes such broker-dealer services deprive the DMM of content that is critical to pricing a closing auction and the Commission should study the effect of this activity on closing auctions. See GTS Securities Letter 2 at 4. See infra note 232 and accompanying text discussing the DERA analysis of the relationship between the proportion of MOC orders currently executed off-exchange and closing price discovery and efficiency.

198 See Nasdaq Letter 2 at 13.

199 See Pitt/Spatt Report at 21.

200 See id. The Nasdaq Data Memo also provided data and analysis arguing that a portion of the broker-dealer volume executed off-exchange after the close at the primary listing exchange's closing price reflects brokers submitting customers' interest to the closing cross and subsequently reporting an over-the-counter trade between the broker and its customers. See also Nasdaq Statement at 31.

201 See NYSE Report at 10; and Nasdaq Statement at 30.

transactions.[202] Nasdaq and NYSE stated that such capital commitment by broker-dealers would likely be a constraining force on the magnitude of MOC orders executed away from primary listing exchanges, while BZX would have no such obligation to commit capital in Cboe Market Close.[203] For this reason, NYSE also argued that the BZX proposal, if successful, could result in a much higher percentage of MOC orders diverted away from the primary listing exchange than what occurs today.[204]

In addition, NYSE provided data that focused on existing off-exchange matching services.[205] NYSE stated that data it analyzed from certain closing auctions with large imbalances[206] shows that, for securities with 1,000 shares or less reported at the official closing price (resulting from executions that occurred both on and off-exchange), volatility in the last 10 minutes of trading leading into the closing auction is 52% higher when more than 75% of the volume executed at that security's official closing price (i.e., closing share volume) is executed off-exchange, compared to when less than 25% of a security's closing share volume is executed off-exchange. In addition, NYSE asserted that its data showed that the official closing price generated in auctions for securities with 1,000 shares or less reported at the official closing price

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202 See NYSE Report at 10; and Nasdaq Statement at 30.

203 See NYSE Report at 10; and Nasdaq Statement at 30.

204 See NYSE Report at 10.

205 See NYSE Letter 3 at 3; and NYSE Statement at 22. See also NYSE Letter 2 at 4. The Commission notes that NYSE also asserted, in regards to the DERA Analysis, that drawing conclusions regarding Cboe Market Close's potential impact on price discovery by comparing Cboe Market Close to off-exchange MOC activity represented an apples-to-oranges comparison due to the structural differences between the proposal and the services of broker-dealers executing MOC orders off-exchange. See NYSE Statement at 25.

206 See NYSE Letter 3 at 3. NYSE stated that it reviewed closing auctions with imbalances of 50% of paired shares as of 3:50 p.m. See id. at 4.

(resulting from executions that occurred both on and off-exchange) was more than twice as far away from the last consolidated sale price and nearly twice as far away from the market volume weighted average price ("VWAP") over the last two minutes of trading before the closing auction when more than 75% of a security's closing share volume is executed off-exchange.[207] Accordingly, NYSE concluded that these price differentials suggest that existing fragmentation degrades the quality of the closing price and further asserted that this demonstrates "a substantial likelihood that any appreciable redirection" of MOC orders from the primary listing exchange to Cboe Market Close would negatively affect price discovery and would be most acute for "less-liquid" stocks.[208]

b. BZX Response to Comments

BZX stated that several off-exchange venues currently offer executions at the official closing price and therefore provide a forum to which participants may choose to send MOC orders in lieu of sending MOC or LOC orders to the primary listing exchange.[209] Contrary to assertions by Nasdaq and NYSE,[210] BZX provided certain data regarding trading volume at the close on venues other than primary listing exchanges to show that the proposal would "not introduce a new type of fragmentation at the close."[211] BZX asserted that because this existing

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207 See id. at 3-4. NYSE provided data that they asserted illustrates that the same degradation in the quality of the official closing price also occurs in closes for securities with 10,000 shares or more reported at the official closing price. See id. at 4.

208 See id. at 3-4; and NYSE Statement at 23-24.

209 BZX Letter 2 at 3.

210 See Nasdaq Statement at 28; and NYSE Statement at 21.

211 See BZX Letter 2 at 4-5. BZX stated that over the first nine months of 2017, off-exchange volume at the official closing price represented approximately 30% of Nasdaq closing volume for Nasdaq-listed securities and 23% of NYSE closing volume for NYSE-listed securities and that, over the course of 2017, the amount of off-exchange closing volume has been increasing. See id. BZX estimated, based on its internal data,

fragmentation has had no adverse effect on the price discovery process, there is no basis to believe that the proposal "would negatively contribute to meaningful fragmentation to the detriment of the price discovery process."[212]

Moreover, other commenters argued that the proposal could increase transparency, reliability and price discovery at the close by incenting brokers that would otherwise seek to match MOC orders off-exchange to re-direct their MOC orders to a public exchange.[213] In addition, BZX argued that attracting order flow away from off-exchange venues would have the additional benefit of increasing the amount of volume at the close executed on systems subject to the resiliency requirements of Regulation SCI.[214]

BZX presented several critiques in response to NYSE's data regarding the effect of off-exchange MOC activity on closing auction price formation. First, BZX stated that NYSE did not provide the number of closing auctions included in its data set.[215] Based on its own analysis, discussed below, BZX estimated that the number of auctions included in NYSE's data set for auctions with 1,000 shares or less was less than a 100th of 1% of all auctions.[216] Therefore, BZX

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that this off-exchange volume represented approximately $270 billion and $426 billion in notional volume in Nasdaq-listed and NYSE-listed securities, respectively. See BZX Statement at 16.

212 See id.

213 See Clearpool Letter at 3-4; ViableMkts Letter at 4-5; and BZX Letter 2 at 5-6. See also Angel Letter at 4.

214 See BZX Letter 2 at 11.

215 See BZX Letter 3 at 2.

216 See id. at 2-3; and BZX Statement at 13-14

argued that NYSE's findings are "of no statistical significance" and BZX also asserted that NYSE selectively chose its data to support NYSE's conclusions.[217]

BZX further argued that it is possible that low volume securities with severe imbalances would be subject to price variations between the last sale and the official closing price, regardless of the amount of off-exchange closing activity.[218] In addition, BZX stated that the data that NYSE provided for auctions with more than 10,000 shares shows that the "impact on closing prices is dampened in more actively traded securities," which BZX believes undercuts NYSE's conclusions and "further highlights the selective and limited nature of NYSE's data set."[219]

Furthermore, despite assertions from Nasdaq and NYSE that BZX did not provide data on the effect of off-exchange MOC activity on closing auction price formation,[220] BZX conducted its own analysis of data from all primary auctions in NYSE-listed securities for which there was a closing auction and a last sale regular way trade, regardless of size, from January 2, 2017 through September 29, 2017.[221] BZX stated that its analysis shows that "the average price gap between the last sale and the official closing price was 9.09 basis points across all groups."[222] BZX stated that it also found that "price gaps are greater amongst auctions with less

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217 See BZX Letter 3 at 2-3.

218 See id.

219 See id.

220 See Nasdaq Statement at 28; and NYSE Statement at 21.

221 See BZX Letter 3 at 3. BZX stated that it reviewed auctions with imbalances of 50% or more of paired shares at 3:55p.m. BZX also stated that it compared auctions where less than 25%, 25% to 50%, 50% to 75%, and more than 75%, of the closing volume was reported to the TRF. BZX also grouped its data amongst auctions with 1,000,000 shares or more, 100,000 shares to 1,000,000 shares, 10,000 to 100,000 shares, 1,000 to 10,000 shares, and less than 1,000 shares.

222 Id. See also BZX Statement at 12 n. 41 (noting that it, like NYSE, utilized the difference between the last sale price and official closing price to determine price impact but it

than 25% of closing volume" executed off-exchange.[223] BZX concluded that its analysis contradicts NYSE's conclusions, asserting that it shows that "the amount of [off-exchange] closing volume has little to no relationship to the primary listing [exchange's] closing auction process."[224]

In addition, BZX stated that it also found similar patterns "when it analyzed securities based on their [average daily volume] instead of auction size."[225] BZX acknowledged that, while securities with average daily volume of less than 10,000 shares appear to have the most volatility, these securities account for a small percentage of overall auction volume, and argued that such volatility "is more likely indicative of the applicable security's trading characteristics."[226]

BZX added that there is no support for a contention that the effect of the proposal on price discovery may be greater because more market participants might use an exchange offering as opposed to a non-exchange offering.[227] As such, BZX asserted that its data provides compelling evidence for the proposal's potential lack of an effect on price discovery.[228]

c. Commission Discussion and Findings

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believes this to be a "reasonable measure of the quality" of closing auction price discovery).

223 See BZX Letter 3 at 3.

224 Id. at 3-4. See also BZX Statement at 13.

225 See BZX Letter 3 at 3.

226 See id. at 4. See also BZX Statement at 13.

227 See BZX Statement at 13 n. 46.

228 See id. at 15.

As Nasdaq and NYSE noted,[229] comparisons to off-exchange MOC activity are not a perfect measure of the potential resulting effect of the proposal because the structures of many off-exchange MOC trading mechanisms differ from the structure of Cboe Market Close. Importantly, unlike what occurs in some off-exchange MOC activity, Cboe Market Close would only execute paired-off MOC interest, and therefore, even if it attracts a larger percentage of MOC orders than are currently executed off-exchange, Cboe Market Close would not affect the net MOC order imbalance, which could contribute to price formation in a closing auction. The Commission agrees with NYSE and Nasdaq that it should not rely on inapposite analogies in approving the proposal. Therefore, and as discussed in more detail below, in finding that Cboe Market Close is consistent with Section 6(b)(5) the Act, the Commission is not persuaded by (or otherwise relying upon) any analyses or comparisons submitted to the record that focused on the purported effects of off-exchange MOC activity.

However, if the Commission were to consider analyses regarding off-exchange MOC activity, the Commission notes that the NYSE analysis, when comparing price differences across securities, did not distinguish whether the observed price differences were due to the removal of MOC orders from the primary listing exchange or due to liquidity or other differences not controlled for in the analysis. As described above, NYSE provided an analysis comparing price differences between securities in which 75% of the total closing volume was executed off-exchange, and securities in which 25% of the total closing volume was executed off-exchange. NYSE argued that securities with more off-exchange MOC activity have more closing price volatility. However, the Commission believes that closing price volatility and off-exchange activity may be correlated with unobserved liquidity factors. For example, small stocks tend to

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229 See supra notes 198-203 and accompanying text.

have high trading costs (e.g., wider spreads, thinner order books) and more volatility on average.[230] Therefore, it is possible that the price differences observed by the commenter could be due to differences in liquidity or other factors not controlled for in the analysis, rather than the levels of off-exchange MOC activity.[231] In contrast, the data provided by BZX covers a broader set of auctions and provides more granular data. That data observed greater volatility in less-liquid stocks and illustrates that those securities account for a much smaller percentage of auction volume, and the observed difference is likely indicative of liquidity or other characteristics common to less-liquid stocks.

d. DERA Analysis

In connection with the consideration of the proposal, the staff from the Commission's Division of Economic and Risk Analysis ("DERA") sought to explore the correlation of closing price discovery and efficiency with existing off-exchange MOC activity.[232] DERA found that, in a sample spanning the first quarter of 2017, variation in off-exchange MOC share (i.e., the amount of MOC volume executed off-exchange relative to the amount of volume executed in the primary listing exchange closing auction) is not significantly correlated with closing price

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230 For example, one study examined fragmentation in the U.S. equities markets and showed that small cap stocks are more fragmented than large cap stocks for Nasdaq-listed issues. It also found that fragmentation is correlated with higher short-term volatility, but increased market efficiency. See Maureen O'Hara and Mao Ye, "Is Market Fragmentation Harming Market Quality?," Journal of Financial Economics 100, 459-474 (2011), available at http://www.sciencedirect.com/science/article/pii/S0304405X11000390.

231 See also supra notes 215-228 and accompanying text (discussing BZX's comments with respect to NYSE's analysis and BZX's own analysis of such data).

232 See DERA Analysis supra note 194. The DERA Analysis states that it does not attempt to establish a causal link between off-exchange activity and closing price discovery and efficiency. See DERA Analysis at 1-2.

discovery or efficiency, controlling for primary auction activity, off-exchange trading activity during regular trading hours, average market capitalization, average daily trading volume, average daily stock return volatility, and closing price volatility.[233] In further sample splits (e.g., by listing venue, security type, and index inclusion), DERA found some mixed evidence of statistically significant correlations, but no consistent or conclusive evidence that contradicts the full-sample analysis. This staff analysis was placed in the comment file prior to the issuance of the Approval Order. And, while the Approval Order recognized that a comparison to off-exchange MOC activity represents an inapposite analogy for purposes of considering the proposal's potential effect on closing auction price discovery, it discussed the DERA Analysis, which suggested that existing levels of fragmentation of closing auctions through the off-exchange MOC activity DERA studied are not, on average, significantly correlated with closing price discovery or efficiency.

NYSE and Nasdaq both stated that the Commission should not attempt to estimate the effect of Cboe Market Close through a comparison to off-exchange MOC trading because of the structural differences between off-exchange MOC trading and Cboe Market Close.[234] They also both critiqued the methodology employed in the DERA Analysis.[235] In addition, the Amihud/Mendelson Report commissioned by Nasdaq purports to provide evidence of a negative and statistically significant relationship between closing price efficiency, measured by weighted

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233 Though the DERA Analysis' findings suggest "that existing levels of fragmentation do not, on average, correlate with price discovery or price efficiency," the DERA Analysis makes clear that "the data we have does not allow us to predict how [Cboe Market Close] would affect price discovery in the closing auction process, and market participants' use of limit-on-close orders in the closing auction processes."

234 See NYSE Statement at 25 (stating that comparing Cboe Market Close to off-exchange MOC trading is an "apples-to-oranges comparison"). See also Nasdaq Statement at 31.

235 See, e.g., NYSE Report at 9-18; Nasdaq Statement at 29-31; Pitt/Spatt Report at 21.

price contribution (WPC), and the off-exchange market share (OEMS) of closing volume that occurs off-exchange between 4:00 p.m. and 4:10 p.m. at the closing price. In particular, the Amihud/Mendelson Report studies the largest 500 Nasdaq stocks by market capitalization during the last two quarters of 2017 and states that a one standard deviation increase in OEMS decreases WPC1 (their first measure of closing price efficiency) by 9.4% of its mean and WPC2 (their second measure of closing price efficiency) by 25.7% of its mean. The Amihud/Mendelson Report further purports to show that their results are robust to the inclusion of stock fixed effects, date fixed effects, and a variety of intraday control variables.

As previously stated, the Commission agrees with NYSE and Nasdaq that the structure of existing mechanisms to conduct off-exchange MOC trading may not, in all instances, be identical to Cboe Market Close.[236] Therefore, the Commission's belief that Cboe Market Close should not disrupt the price discovery process and closing auction price formation is not dependent on the DERA Analysis or other studies focused on off-exchange MOC activity.[237] While the Commission has reviewed NYSE's and Nasdaq's critiques of the methodology of the DERA Analysis, the DERA Analysis does not bear on the Commission's decision to approve BZX's proposal.

Furthermore, even though NYSE's and Nasdaq's critiques of the methodology of the DERA Analysis are not relevant to this order, the Commission notes that it is not persuaded by the findings of the Amihud/Mendelson Report because it believes there are two methodological flaws in that study that lead to an overstatement of the economic significance of the findings. First, the Amihud/Mendelson Report expresses the changes in WPC1 and WPC2 as percentages

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236 See supra notes 198-203 and accompanying text.

237 See supra Section III.B.

of their respective means. The means of WPC1 and WPC2 are very close to zero because any individual WPC1 or WPC2 observation can be positive or negative. The percentage decreases in WPC1 and WPC2 appear high (9.4% and 25.7%) because the OEMS effects on WPC1 and WPC2 are expressed as percentages of near-zero numbers. If the Amihud/Mendelson Report expressed the OEMS effects on WPC1 and WPC2 as a percentage of their respective standard deviations instead, then the Amihud/Mendelson Report would obtain much lower percentage effects that are unlikely to be economically significant. Second, the Amihud/Mendelson Report takes the log transformation of the OEMS variable in their tests. By construction, the OEMS variable is bound between zero and one, and taking the log transformation of this variable will greatly skew its distribution and increase its standard deviation. If the standard deviation of the OEMS variable is inflated, then any economic effect on closing price efficiency resulting from a one standard deviation increase in the OEMS variable will also be inflated. These methodological flaws cast doubt on the economic significance of the findings in the Amihud/Mendelson Report.

3. *Competing Closing Auctions*

a. Comments on the Proposal

In support of its proposal, BZX stated that Nasdaq and NYSE Arca operate closing auctions for securities listed on other exchanges and that these closing auctions produce independent prices that may differ from a security's official closing price determined in the closing auction conducted by the security's primary listing exchange.[238] BZX stated that in

238 See Notice at 23322.

contrast to Cboe Market Close, these competing closing auctions not only fragment closing auction trading interest, but also detrimentally impact price discovery.[239]

In response, both Nasdaq and NYSE distinguished the Cboe Market Close from competing closing auctions currently operated by Nasdaq and NYSE Arca for securities listed on other exchanges. Nasdaq stated that the BZX proposal is a price-matching order type and not a competitive single-priced auction that offers price discovery.[240] Nasdaq stated that its single-priced auction for non-Nasdaq listed stocks was designed to maximize order interaction and improve price discovery for issuers, and was not designed to siphon orders away from the primary listing exchange without seeking to improve price discovery.[241] Accordingly, Nasdaq argued that the fact that it and NYSE Arca offer competing closing auctions is irrelevant to evaluating BZX's proposal because those auctions are fundamentally different from the BZX proposal.[242] Similarly, NYSE argued that it believed it was misleading to compare the proposal to these competing closing auctions operated by Nasdaq and NYSE Arca for securities listed on other exchanges because BZX would be offering neither a competing closing auction nor a facility to establish the official closing price should a primary listing exchange invoke its closing auction contingency plan.[243]

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239 See BZX Letter 1 at 3-4.

240 See Nasdaq Letter 2 at 8-9.

241 See id. at 9.

242 See id.

243 See NYSE Letter 2 at 3.

Nasdaq further argued that competing closing auctions cause minimal fragmentation, as volumes in those auctions are "miniscule."[244] Nasdaq further asserted that less than half of Nasdaq-listed corporate issues experience price dislocations in competing closing auctions.[245] Moreover, both Nasdaq and NYSE stated that there were multiple instances when they had received orders in their competing closing auctions for securities listed on another exchange, and they both chose to contact the firms that submitted those orders and encouraged them to instead route their orders directly to the primary listing exchange.[246]

In contrast, other commenters stated that these competing closing auctions may attract price-setting limit orders from the primary listing exchange and impede price discovery, unlike the BZX proposal which is limited to market orders.[247]

b. BZX Response to Comments

As noted above, BZX stated that, unlike Cboe Market Close, the competing closing auctions operated by Nasdaq and NYSE Arca accept price-setting limit orders, in addition to MOC orders, and therefore may harm price discovery.[248] Therefore, BZX questioned whether Nasdaq's and NYSE's concerns regarding the potential impact of Cboe Market Close should not

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244 See Nasdaq Letter 2 at 9-11. See also NYSE Letter 3 at 5-6. NYSE also stated that it does not have a business interest in running closing auctions for securities listed on other markets. It stated it operates the NYSE Arca closing auction for resiliency purposes, which it believes outweighs any modest negative effect on fragmentation. See id.

245 See Nasdaq Letter 2 at 11.

246 See id. at 13; and NYSE Letter 3 at 6. See also infra note 253 and accompanying text.

247 See Clearpool Letter at 3; IEX Letter at 2; Angel Letter at 4; SIFMA Letter 2 at 2; and Bollerman Letter at 3.

248 See BZX Letter 1 at 5; BZX Letter 2 at 2; and BZX Letter 3 at 4. BZX provided evidence of 14 instances in June 2017 where a Nasdaq-listed security had no volume in Nasdaq's closing auction but did have volume in NYSE Arca's closing auction. See BZX Letter 1 at 5.

also apply to the competing closing auctions operated by Nasdaq and NYSE Arca.[249] BZX argued that Nasdaq and NYSE's assertions that they currently attract low trading volumes in their competing closing auctions are irrelevant to an analysis of their potential effect on fragmentation.[250] BZX argued that should these auctions see an increase in order flow, they would increase existing market fragmentation.[251] BZX also asserted that such competing closing auctions often may produce bad auction prices on the non-primary listing exchange, as compared to the proposed Cboe Market Close which would ensure that market participants receive the official closing price.[252] In addition, in response to NYSE's assertion that it contacted firms that submitted orders to NYSE Arca's competing closing auction and encouraged them to instead submit orders to the primary listing exchange, BZX provided data that it stated evidences that NYSE has not, in fact, discouraged order flow to their competing auctions and that NYSE Arca's competing auction "continues to maintain not insignificant monthly volume" in at least two securities.[253]

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249 See, e.g., BZX Letter 2 at 2.

250 See BZX Letter 1 at 6.

251 See id. BZX also stated that, despite their potential utility as a back-up in case of a market impairment, Nasdaq and NYSE Arca run these competing auctions on a daily basis, regardless of whether there is an impairment at a primary listing exchange. See id. BZX further questioned why these exchanges do not utilize test symbols and test data in order to confirm the operational integrity of the auction processes without potentially harming the price discovery process by the primary's closing auction. See BZX Letter 3 at 5.

252 See BZX Letter 1 at 4; and BZX Letter 2 at 2. BZX asserted that 86% of closing auctions conducted by Nasdaq for NYSE-listed securities in June 2017 resulted in closing prices different from the official closing price and 84% of competing closing auctions conducted by NYSE Arca for Nasdaq-listed securities in June 2017 resulted in closing prices different from the official closing price. BZX Letter 1 at 4.

253 BZX Letter 3 at 4.

c. Commission Discussion and Findings

The Commission believes, as some commenters argued, that there are certain fundamental differences between BZX's proposed Cboe Market Close and existing competing closing auctions. First, BZX's proposed Cboe Market Close is not a closing auction. Further, as NYSE and Nasdaq stated, their existing competing, single-priced closing auctions accept LOC orders (which specify target prices) and therefore, produce closing prices independent from those determined through the primary listing exchanges' closing auctions. As pointed out by BZX, this could affect the closing price on the primary listing exchange by potentially diverting LOC orders that contribute to price discovery away from the primary listing exchange's closing auction.[254] In contrast, BZX's proposal would not accept LOC orders. Rather, Cboe Market Close only matches MOC orders. Thus, based on its design, Cboe Market Close should not affect the price formation process in the closing auctions on the primary listing exchanges.

C. Potential Effect on Issuers and Other Market Participants

1. Comments on the Proposal

Several commenters stated that the proposal could harm issuers, particularly small and mid-cap companies.[255] Many of these commenters argued that because, in their view, the

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254 Competing auctions could also potentially reduce the centralization of orders at the primary listing exchange's closing auction, which NYSE and Nasdaq argued was a critical element of the primary listing exchanges' closing auctions. See Nasdaq Letter 1 at 11; Nasdaq Letter 2 at 5-6; Nasdaq Statement at 22; NYSE Statement at 21; NYSE Report at 12; and NYSE Letter 1 at 4.

255 See, e.g., Nasdaq Letter 1 at 6-7; Nasdaq Letter 2 at 1-2; Nasdaq Statement at 27; NYSE Letter 1 at 3; GTS Securities Letter 1 at 2-5; Customers Bancorp Letter; Orion Group Letter; IMC Financial Letter at 1-2; Southern Company Letter; Letter from Cole Stevens, Investor Relations Associate, Nobilis Health, (July 6, 2017) ("Nobilis Health Letter"); Letter from Christopher A. Iacovella, Chief Executive Officer, Equity Dealers of America, (July 12, 2017) ("EDA Letter") at 1-2; Coupa Software Letter; Trade Desk Letter; and Duffy/Meeks Letter at 1.

proposal undermines the reliability of the closing process and/or the official closing price it also poses a risk to listed companies and their shareholders.[256] Many of these commenters, some of which are issuers, stated that the current centralized closing auctions on the primary listing exchanges contribute meaningful liquidity to a company's stock, facilitate investment in the company, and help to lower the cost of capital. These commenters expressed concern that the potential additional fragmentation they believed could be caused by the proposal could negatively affect liquidity during the closing auction, causing detrimental effects to listed issuers.[257]

In addition, commenters stated that closing prices play an important role in the pricing of pooled investment vehicles, derivative securities, and benchmark indices.[258] One of these commenters asserted that because the closing price is a critical data point for investors, the

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256 See, e.g., NYSE Letter 1 at 3; IMC Financial Letter at 1-2; Nobilis Health Letter; EDA Letter at 1-2; Coupa Software Letter; Letter from M. Farooq Kathwari, Chairman, President & CEO, Ethan Allen Interiors, Inc. (July 24, 2017) ("Ethan Allen Letter"); Trade Desk Letter; BioCryst Letter; Digimarc Letter; Duffy/Meeks Letter at 1-2; NBT Bancorp Letter; Global Payments Letter; CA Technologies Letter; Sirius Letter; and PayPal Letter. Several issuers also asserted that decentralizing closing auctions will increase volatility, reduce visibility, and negatively affect liquidity for equity securities. See, e.g., Customers Bancorp Letter; Orion Group Letter; and Nobilis Health Letter.

257 See, e.g., Customers Bancorp Letter; Orion Group Letter; Southern Company Letter; and Duffy/Meeks Letter at 1-2. In contrast, one commenter argued that the proposal would attract more liquidity at the official closing price because the lower aggregate cost of trading at the official closing price would likely result in incremental increases in trading volumes at the official closing price. In addition, this commenter stated that the ability to enter MOC orders into Cboe Market Close with little risk of information leakage may attract an additional source of liquidity from "patient investors" that seek to trade large amounts of stock but may not utilize the primary listing exchanges' closing auctions due to concerns about information leakage. See ViableMkts Letter at 2.

258 See Pitt/Spatt Report at 6-7; and Letter from Alexander J. Matturri, CEO, S&P Dow Jones Indices (July 18, 2017) ("SPDJI Letter") at 1-2. See also, e.g., Coupa Software Letter; and Trade Desk Letter.

Commission should take "great caution" in considering any changes related to the primary listing exchanges' closing auctions.[259]

Moreover, some commenters argued that the centralization of liquidity at the open and close of trading, and how primary listing exchanges perform during the opening and closing, are important factors for issuers in determining where to list their securities.[260] Commenters also stated that the additional risk posed to listed companies from an unreliable or unrepresentative closing price and/or process could affect an issuer's decision where to list and/or cause companies to forgo going public.[261] Nasdaq added that the proposal would undermine confidence in the price discovery process and the mere perception of these risks could discourage issuers from going public.[262]

2. BZX Response to Comments

BZX stated that because the proposal only matches paired-off MOC orders, it "would not adversely impact the trading environment for issuers and their securities."[263] BZX further stated that unlike the competing closing auctions run by NYSE Arca and Nasdaq, the proposal would

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259 See SPDJI Letter at 2. See also NYSE Report at 23-24. In contrast, one commenter acknowledged that while affecting the quality of the closing price is an objection that deserves close analysis, as the closing price is "the most important price of the day," and would warrant rejection of the proposal, the commenter does not believe the proposal would harm the quality of the closing price. See Angel Letter at 4.

260 See, e.g., EDA Letter at 1; Duffy/Meeks Letter at 1; and GTS Securities Letter 2 at 1-2.

261 See, e.g., NYSE Letter 1 at 3 and 9; GTS Securities Letter 1 at 3-5; and EDA Letter at 1. In addition, one commenter stated that further fragmenting the market would limit the quality and quantity of information on trading dynamics that the primary listing exchanges provide to their listed issuers. See CA Technologies Letter.

262 See Nasdaq Statement at 27-28.

263 See BZX Letter 1 at 2 and 4; and BZX Letter 2 at 10.

not create a price that deviates from the official closing price, and therefore, the proposal "would not impact listed issuers or the market for their securities."[264]

3. Commission Discussion and Findings

As discussed above, BZX has demonstrated that because Cboe Market Close will only execute paired-off MOC orders, it should not disrupt the price discovery process.[265] Accordingly, the proposal should not lead to the detrimental effects that commenters have raised regarding the reliability of official closing prices, confidence in closing prices and pricing of benchmark indices, increased volatility, liquidity conditions for particular stocks, and the cost of raising capital. Further, as described above, because BZX will disseminate the amount of matched shares at 3:35 p.m.—well before the cut-off time for the primary listing exchanges' closing auctions[266]—the Commission does not believe that the proposal would negatively affect visibility and transparency into the closing auction process on the primary listing exchanges, nor would it limit the quality and quantity of information on trading dynamics that the primary listing exchanges could provide to their listed issuers.

D. Effect on Market Complexity and Operational Risk

1. Comments on the Proposal

Several commenters addressed the potential effect of the proposal on market complexity and operational risk to the securities markets.

Some of these commenters believed that the proposal would not introduce significant additional complexity or operational risk. For example, two commenters argued that the

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264 See BZX Letter 2 at 10.

265 See supra Section III.B.

266 See supra note 23.

proposal could enhance the resiliency of the closing auction process by providing market participants an additional mechanism through which to execute orders at the official closing price in the event of a disruption at a primary listing exchange.[267] Another commenter argued that exchanges already have many market data feeds that firms must purchase to ensure that they have all of the information necessary to make informed execution decisions and that adding another data feed will not add complexity given the small amount of information that goes into the closing data feed and the current capabilities of market participants to re-aggregate multiple data feeds.[268]

In contrast, other commenters argued that the proposal would add unnecessary market complexity and operational risk to the securities markets. Nasdaq asserted that the proposal would impair the statutory objective of fair and orderly markets by "fostering complexity and fragmentation in the securities markets."[269] In particular, Nasdaq and other commenters stated that the proposal would exacerbate market complexity by requiring market participants to monitor and analyze an additional data feed, the Cboe Auction Feed.[270] These commenters argued that monitoring an additional data feed could create challenges and increase operational risk by creating another point of failure at a critical time of the trading day.[271] Some commenters

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267 See SIFMA Letter 1 at 2; and ViableMkts Letter at 3 (further stating that once BZX is able to process MOC orders, BZX would be in a position to develop the capability to offer a full backup closing auction process).

268 See Clearpool Letter at 4.

269 See Nasdaq Statement at 32.

270 See Nasdaq Statement at 33; NYSE Letter 1 at 7; NYSE Statement at 26-27; and IMC Letter at 1.

271 See IMC Letter at 1; NYSE Letter 1 at 7; and Nasdaq Statement at 33. See also Ethan Allen Letter (arguing the proposal would add a layer of complexity).

stated that additional exchanges, broker-dealers, or ATSs are likely to adopt similar functionality to Cboe Market Close, which would require monitoring of even more data feeds and further increase fragmentation, risk, and operational challenges in the market.[272] While acknowledging that sophisticated market participants are capable of monitoring additional data feeds, Nasdaq and NYSE argued that many closing auction participants are less-active traders than the professional market participants who trade during the continuous trading session.[273] Such market participants, they argued, do not have the technology and systems to analyze an additional data feed and would thereby be placed at a disadvantage to sophisticated market participants who already have such systems in place.[274]

One commenter also argued that the proposal increases operational risk and complexity at a critical point of the trading day by forcing market participants whose orders did not match in Cboe Market Close to quickly send MOC orders from one exchange to another before the cut-off time at the primary listing exchange closing auction.[275] This added complexity, the commenter

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272 See NYSE Letter 3 at 3; NYSE Statement at 26; T. Rowe Price Letter at 1-2; Nasdaq Letter 1 at 8; and Nasdaq Statement at 33-34.

273 See Nasdaq Statement at 33-34; and NYSE Statement at 27-28.

274 See Nasdaq Statement at 33-34; and NYSE Statement at 27-28.

275 See GTS Securities Letter 1 at 6. Furthermore, NYSE argued that in certain situations, investors may not be able to participate in a closing auction on NYSE American or NYSE Arca if they wait until after their order was cancelled by BZX to send in a market-on-close order to closing auctions on NYSE Arca and NYSE American. NYSE explained that in situations where there is an order imbalance priced outside the Auction Collars, orders on the side of the imbalance are not guaranteed to participate in the closing auctions on those two exchanges. Earlier submitted MOC orders have priority. See NYSE Letter 1 at 8.

argued, puts additional stress on the systems of exchanges and increases the potential for disruptions.[276]

2. BZX Response to Comments

In response, BZX argued that the proposal would not increase market complexity or operational risks.[277] BZX characterized the proposal as a simple crossing process that provides one additional venue, among the many that exist today, to which market participants may send MOC orders.[278] BZX asserted that Cboe Market Close would provide a way to address the single point of failure risk that exists for closing auctions conducted on the primary listing exchanges.[279] Specifically, BZX argued that in the event there is an impairment at a primary listing exchange, Cboe Market Close could provide an alternative option for market participants to route MOC orders and still receive the official closing price.[280]

BZX also argued that modern software can easily and simply add volume data disseminated by the primary listing exchanges regarding the closing auction and data regarding matched MOC orders from the Cboe Market Close.[281] Moreover, BZX stated that it believed the 3:35 p.m. cut-off time would provide market participants with adequate time to receive any

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276 See GTS Securities Letter 1 at 6.

277 See BZX Letter 1 at 12; BZX Letter 2 at 10-11; and BZX Statement at 17-20.

278 See BZX Statement at 17.

279 See BZX Letter 1 at 12; and BZX Letter 2 at 10-11.

280 See id. In contrast, Nasdaq argued that Cboe Market Close could not serve as a back-up for a primary listing exchange suffering an impairment because it is not a price-discovering auction and would not operate in the absence of the auction it would be backing-up. See Nasdaq Letter 2 at 12.

281 See BZX Letter 1 at 4; BZX Letter 2 at 3; and BZX Statement at 19.

necessary information and to route any unmatched orders to the primary listing exchange.[282] BZX stated that market participants would not be obligated to use Cboe Market Close or subscribe to its data feed (or any other additional functionality or feeds that competitors develop), and accordingly, may weigh the value of seeking an execution in such a facility against any perceived risks.[283] BZX also stated that the proposal should not be evaluated based on speculation about whether others might mimic the functionality in the future.[284]

3. Commission Discussion and Findings

The Cboe Market Close will offer market participants an additional venue to which they may send orders for execution at the official closing price and an additional data feed that some market participants may choose to monitor. However, as several commenters stated, many market participants already monitor multiple data feeds, and the Commission believes that the market participants that monitor information disseminated by BZX relating to Cboe Market Close would likely already maintain systems and software that are able to aggregate such feeds. While NYSE and Nasdaq argue that many closing auction participants are less active, less sophisticated participants that would not have the systems or ability to aggregate an additional feed, there are currently numerous destinations available to send MOC orders – primary listing auctions, competing auctions, ATSs, and other off-exchange venues. As a result, the Commission believes that even less active traders seeking closing executions likely already

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282 See BZX Letter 2 at 8; and BZX Statement at 18.

283 See BZX Letter 2 at 8-9; and BZX Statement at 19. In contrast, NYSE argued that it is irrelevant whether it is optional to send market orders to the Cboe Market Close, as the analysis should turn on whether the mere existence of the Cboe Market Close would increase complexity and operational risk in the market. See NYSE Letter 3 at 2.

284 See BZX Statement at 19.

monitor, have the capability to monitor, or rely on their broker-dealers to monitor, multiple data points for closing auction liquidity and information.

Further, the Commission notes that exchanges currently offer a wide array of proprietary market data products providing expansive trading information, including auction information.[285] Unlike some of these other proprietary market data feeds offered by certain exchanges, the Cboe Auction Feed is equally available to all market participants at no charge,[286] and, as part of this proposal, BZX has proposed to enhance the Cboe Auction Feed to include only one point of additional data (total matched shares in the Cboe Market Close), once a day. Accordingly, the Commission does not believe that monitoring the Cboe Auction feed or having one additional venue to which market participants may submit MOC interest would significantly increase complexity or fragmentation, or impose substantial burdens on market participants, in such a manner as to render the proposal inconsistent with the Act.[287] Specifically, the Commission does not believe that the proposal adds such a level of complexity so as to be inconsistent with the Act, such as, among other things, by impeding fair and orderly markets, imposing impediments to a free and open market and a national market system, being unfairly discriminatory, or impeding fair competition among market participants.

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285 See, e.g., Clearpool Letter at 2 (stating that imbalance feeds that are published for NYSE's and Nasdaq's closing auctions are only available as part of the exchanges' premium data products). Therefore, less active traders that wish to trade in the NYSE or Nasdaq closing auction arguably already would have the technology and systems necessary to integrate the additional proprietary data products offered by the exchanges.

286 BZX does not charge a fee for the data provided by the Cboe Auction Feed, which also includes market data not related to Cboe Market Close; however, BZX does charge logical port and connectivity fees for the receipt of the Cboe Auction Feed.

287 See also supra Section III.B. further discussing and addressing concerns regarding the potential effects of the proposal on fragmentation of the markets.

In addition, in response to comments regarding the potential for other exchanges and venues to adopt similar functionality that would require monitoring of even more data feeds, again the Commission believes that those participants that would choose to monitor such data feeds likely already have the capability to monitor and aggregate information from multiple data feeds.

Finally, the Commission believes that because BZX will disseminate the amount of paired-off shares well in advance of the order entry cut-off times for the primary listing exchanges' closing auctions, the proposal is reasonably designed to limit market complexity and risk by giving market participants adequate time to review the necessary data, make informed decisions about closing order submission, and route orders to the primary listing exchange when desired.[288]

E. Manipulation

1. Manipulation Due to Information Asymmetries

a. Comments on the Proposal

Several commenters asserted that the proposal would increase the risk of manipulation. Commenters argued that the proposal increases opportunities for manipulation due, in part, to the

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288 As noted above, NYSE pointed out one instance on NYSE Arca and NYSE American where, pursuant to their rules, if there is an order imbalance priced outside of the Auction Collars, orders are not guaranteed to participate in the closing auction, and MOC orders entered earlier in the day have priority over later-arriving MOC orders. As such, NYSE argued that if a market participant waits to enter an MOC order on NYSE Arca or NYSE American until after their MOC order is cancelled by BZX, that MOC order could lose priority over earlier-entered MOC orders. See supra note 275. However, as noted above, market participants are not required to send MOC orders to Cboe Market Close. Further, the Commission believes that the operation of the NYSE Arca and NYSE American's auctions are clearly delineated in their rules, and this limited scenario is the type of potential risk that the Commission expects that market participants will need to evaluate in any determination as to whether to send their orders to Cboe Market Close.

information asymmetries that they argue Cboe Market Close would create. For example, Nasdaq argued that information obtained by Cboe Market Close participants regarding their paired-off MOC orders could be used to gauge the depth of the market, the direction and magnitude of existing imbalances, and the likely depth remaining at Nasdaq, creating manipulation opportunities and undermining fair and orderly markets.[289] Similarly, NYSE offered several hypothetical examples to illustrate how Cboe Market Close could potentially be used to manipulate the official closing price, including by providing market participants who participate in Cboe Market Close with useful information that is unavailable to other market participants, such as the direction of an imbalance.[290] Although not citing concerns regarding manipulation specifically, T. Rowe Price similarly argued that the proposal would lead to information asymmetries that could result in changes in continuous trading behavior leading into the market close as some market participants could be trading on information gathered from Cboe Market Close pairing results.[291] Specifically, T. Rowe Price asserted that a market participant that is aware of the composition of volume paired-off through Cboe Market Close at 3:35 p.m. would

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289 See Nasdaq Letter 1 at 8; Nasdaq Letter 2 at 13-14; Nasdaq Statement at 17-20; and Pitt/Spatt Report at 21-23. The Nasdaq Statement and accompanying Pitt/Spatt Report provided several examples to illustrate how such information could potentially be utilized to "mark the close," learn the direction of the order imbalance, and/or determine the relative magnitude of the imbalance. For example, Nasdaq argued that a market participant could enter both buy and sell MOC orders in the Cboe Market Close to learn the likely direction of the MOC imbalance in advance of other market participants and use such information to its benefit in the closing auction on the primary listing exchange. See Nasdaq Statement at 17-20; and Pitt/Spatt Report at 21-23.

290 See NYSE Letter 1 at 6; and NYSE Statement at 28-30. However, ViableMkts argued that because these market participants would not know the full magnitude of the imbalance, it does not believe the proposal creates an incremental risk of manipulation. See ViableMkts Letter at 5.

291 See T. Rowe Price Letter at 2-3.

be in a position to use that information to influence its trading behavior over the next ten to fifteen minutes leading in to the closing auction cut-off times on NYSE and Nasdaq, respectively.[292]

While Nasdaq acknowledged that information asymmetries exist today as a result of broker-dealer MOC order matching services, it argued that BZX, "as a neutral platform, is more likely to gather orders from multiple brokers and enable a small number of participants to gain actionable asymmetric information," which could potentially change the Nasdaq closing price.[293] Nasdaq also distinguished its closing auction from the proposed Cboe Market Close, stating that by having its data dissemination and cut-off time occur simultaneously, all market participants learn the imbalance at the same time, avoiding such risks.[294]

Nasdaq further argued that information asymmetries can undermine public confidence in the markets.[295] In particular, Nasdaq asserted that the proposal could disincent market participants from submitting LOC orders for fear of competing with other market participants with more market information.[296] This decreased liquidity, Nasdaq argued, could make stocks

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292 See id. T. Rowe Price argued that, as a result, the proposal could not only affect price discovery in closing auctions on the primary listing exchanges but it could also affect continuous trading behavior. See id.

293 See Nasdaq Letter 2 at 14. Nasdaq argued that this would weaken the price discovery process, create a cycle of closing price deterioration, and increase volatility. See id. But see supra Section III.B, discussing why the Commission believes the proposal, based on its design, will not disrupt the price discovery process of the primary listing exchanges' closing auctions.

294 See Nasdaq Letter 2 at 14; Nasdaq Statement at 18; and Pitt/Spatt Report at 23.

295 See Nasdaq Statement at 19.

296 See Nasdaq Statement at 19.

even more susceptible to manipulation, particularly those with relatively lower levels of liquidity.[297]

b. BZX Response to Comments

In contrast, BZX argued that information asymmetries are inherent in trading, including the primary listing exchanges closing auctions.[298] For example, BZX argued that the current operation of d-Quotes[299] on NYSE provides an informational advantage to NYSE DMMs and floor brokers, and allows d-Quotes to be entered, modified, or cancelled up until 3:59:50 p.m. while other market participants are prohibited from entering, modifying or cancelling on-close orders after 3:45 p.m.[300] Lastly, BZX argued that the information disseminated through the Cboe Auction Feed would not provide any indication of whether the cancelling of a particular side of an order that has not been matched back to a market participant "is meaningful or just

297 See Nasdaq Statement at 19-20.

298 See BZX Letter 1 at 11-12; BZX Letter 2 at 9; and BZX Statement at 20.

299 Pursuant to NYSE Rules, a floor broker may enter discretionary instructions as to size and/or price with respect to his or her e-Quotes ("discretionary e-Quotes" or "d-Quotes"). The discretionary instructions relate to the price at which the d-Quote may trade and the number of shares to which the discretionary price instructions apply. Discretionary instructions are active during the trading day, unless the Protected Best Bid and Offer ("PBBO") (as defined in NYSE Rule 1.1(o)) is crossed, and at the opening, reopening and closing transactions, and may include instructions to participate in the opening or closing transaction only. Exchange systems will reject any d-Quotes that are entered 10 seconds or less before the scheduled close of trading. Executions of d-Quotes within the discretionary pricing instruction range are considered non-displayable interest. See NYSE Rule 70.25(a).

300 See BZX Letter 1 at 12; and BZX Letter 2 at 9. The Commission notes that NYSE's cut-off time for entering, modifying, or cancelling on-close orders is now 3:50 p.m. See NYSE Rule 123C(2)(a)(i).

happenstance," which limits this information's ability to create or increase manipulative activity.[301]

c. Commission Discussion and Findings

While commenters argue that those who participate in Cboe Market Close would be able to discern the direction of an imbalance and use such information to manipulate the closing price, the Commission believes the utility of such gleaned information is limited. In particular, a market participant would only be able to determine the direction of the imbalance, and would have difficulty determining the magnitude of any imbalance, as it would only know the unexecuted size of its own order.[302] In addition, the information would only be with regard to the pool of liquidity on BZX and would provide no insight into imbalances on the primary listing exchange, competing auctions, ATSs, or other off-exchange matching services which, as described above, can represent a significant portion of trading volume at the close.

Likewise, while a market participant would be able to determine whether its own order made up a large or small percentage of the paired-off shares for a security in Cboe Market Close, it would not be able to determine the composition of same-side or contra-side MOC orders

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301 See id.

302 While Nasdaq argued that the size of a market participant's cancelled order and time of day would provide some indication of the magnitude of the imbalance, as discussed herein, the Commission believes the value of this information to be extremely limited as it does not give accurate or comprehensive insight into the overall MOC imbalance size in the Cboe Market Close or of the MOC imbalances in the entire market inclusive of other venues. See Nasdaq Statement at 18. The Commission acknowledges that the greater the size of the cancelled order, the more useful the information may be in determining the imbalance magnitude on Cboe Market Close, but the Commission believes it is unlikely that a market participant would risk placing and receiving an execution of a large MOC order (for example, 10,000 shares as in Nasdaq's example), purely to gain limited insight into MOC imbalance size. The risk of receiving an execution of a large order that may be inconsistent with a market participant's goals is likely to eclipse any limited potential benefit that could be gained.

submitted to Cboe Market Close, nor would such information enable it to determine the composition of orders submitted to the primary listing exchange, competing auctions, ATSs, or other off-exchange matching services.[303] Therefore, the Commission believes the utility of this information is also limited.

Further, the Commission believes information asymmetries as those described by commenters exist today and are inherent in trading, including with respect to closing auctions. For example, any party to a trade gains valuable insight regarding the depth of the market when an order is executed or partially executed. In addition, on NYSE, not only DMMs,[304] but also NYSE floor brokers have access to closing auction imbalance information that is not simultaneously available to other market participants, far in advance of the NYSE order entry cut-off time. Specifically, pursuant to NYSE rules, floor brokers receive the amount of, and any imbalance between, MOC and marketable LOC interest every fifteen seconds beginning at 2:00 p.m. until 3:50 p.m.[305] Floor brokers are permitted to provide their customers with specific data

303 While one commenter expressed concern that market participants that are aware of the composition of volume paired-off through Cboe Market Close would be in a position to use that information to influence their trading behavior leading up to the close, under BZX's proposal, BZX would only publish the size, and not the composition, of paired-off MOC shares, and such disseminated information would be available to all market participants. See supra notes 291-292 and accompanying text.

304 The Commission has acknowledged the information asymmetries that benefit DMMs, explaining that, "[i]n return for their obligations and responsibilities, DMMs have significant priority and informational advantages in trading on the Exchanges, both during continuous trading and during the closing auction" and that "DMMs have unique access to aggregated information about closing auction interest at each price level, and during the auction itself, DMMs are aware of interest represented by floor brokers, which is not publicly disseminated". See Securities Exchange Release No. 81150 (July 20, 2017), 82 FR 33534, 33536-37 (July 20, 2017) (NYSE-2016-71 and NYSEMKT-2016-99) ("NYSE DMM Disapproval Order").

305 See NYSE Rule 123C(6)(b).

points from this imbalance feed. In arguing for the Commission to approve its proposal to disseminate such information to floor brokers, NYSE stated that the imbalance information does not represent overall supply or demand for a security, but rather is a small subset of buying and selling interest that is subject to change before the close, nor is it actionable prior to 15 minutes before the close.[306] NYSE further asserted that it believed the information it disseminates to all participants at 3:45 p.m. is more material to investors, as it is more accurate, complete, and timely information.[307]

The Commission believes that the same arguments apply with respect to BZX's proposal. In particular, as discussed above, even if a market participant becomes aware of the direction of the imbalance for a security in Cboe Market Close as a result of receiving a cancellation of part or all of that participant's order, such information does not represent overall supply or demand for the security, is subject to change before the close, and is only one piece of relevant information. Therefore, given these limitations, the Commission believes that such information is likely less useful than other more comprehensive information regarding the close that would be available to market participants, such as the total matched amount of MOC shares that would be disseminated by BZX at 3:35 p.m. and available to all market participants on equal terms, as well as any imbalance information disseminated by the primary listing exchanges.

Given the limited usefulness of information that can be discerned from participants of Cboe Market Close, the Commission also believes it is unlikely that the proposal will have a negative effect on public confidence in the markets or on market participants' use of LOC orders in the close. This is not to say that merely because some information asymmetries exist in the

306 See Securities Exchange Act Release No. 62923 (Sept. 15, 2010), 75 FR 57541, 57542 (Sept. 21, 2010) (SR-NYSE-2010-20; SR-NYSEAmex-2010-25).

307 See id.

market today and are inherent in all trading that those created by Cboe Market Close need not be carefully considered. Rather, after careful consideration and analysis of the proposal and the information that may be gleaned from Cboe Market Close, its utility, and potential use, the Commission believes BZX has demonstrated that the potential for increased manipulation due to information asymmetries created by this proposal is negligible and that it is in line with other proposals that have similarly introduced certain limited information asymmetries into the market but been found by the Commission to be consistent with the Act, as described above.[308]

2. Other Causes for Increased Potential for Manipulation

a. Comments on the Proposal

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308 The Commission believes that Nasdaq's reliance on recent Direct Edge and NYSE enforcement cases as support for the principle that the Commission has found informational advantages to be inconsistent with the Act is misplaced. See Nasdaq Statement at 19. Both of the cases cited by Nasdaq are distinguishable from the current proposal in that they involved instances where the exchanges' rules were inaccurate or incomplete regarding the description of the operation of certain order types. Informational asymmetries arose as a result of such inaccuracies and/or omissions in the exchanges' rules and because only certain members had access to correct information regarding the operation of such order types. See Securities Exchange Act Release No. 82808, In the Matter of NYSE LLC, NYSE American LLC, and NYSE Arca, Inc. (Mar. 6, 2018), available at: https://www.sec.gov/litigation/admin/2018/33-10463.pdf and Securities Exchange Act Release No. 74032, In the Matter of EDGA Exchange, Inc. (Jan. 12, 2015) (settled orders), available at: https://www.sec.gov/litigation/admin/2015/34-74032.pdf ("It is essential that an exchange operate in compliance with its own rules regarding order types so that the exchange's members and all other participants in trading that occurs on an exchange can understand on what terms and conditions their trading will be conducted. When an exchange fails to completely and accurately describe its order types in its rules, it creates a significant risk that the manner in which those order types operate will not be understood by all market participants, thereby compromising the integrity and fairness of trading on that exchange. This risk is compounded when the exchange discloses information regarding the operation of those order types to some but not all of its members.").

Commenters advanced several other theories as to how the proposal could enhance the risk of manipulation.[309] For example, NYSE and Nasdaq asserted that the potential for manipulative activity at the close would increase because primary listing exchange closing auctions would decrease in size and thus be easier to manipulate.[310] NYSE and Nasdaq also argued that the proposal facilitates manipulative activity by providing an incentive for market participants to influence the closing price when they know they have been successfully matched on BZX to the benefit of the price of its already matched order.[311] Further, NYSE argued that market participants could manipulate information leading up to the close by entering orders into Cboe Market Close in an attempt to send a false signal regarding demand and subsequently reverse such positions after hours.[312]

Some commenters did not believe Cboe Market Close would increase manipulation. For example, one commenter stated that incentives to manipulate the closing price already exist and it is unlikely the proposal would result in increased manipulation of the market close.[313]

b. BZX Response to Comments

In response, BZX argued that the proposal does not introduce any specific or new ways to manipulate the closing price.[314] BZX further asserted that commenters' arguments regarding

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309 See, e.g., NYSE Letter 1 at 6; NYSE Report at 19-22; and Americas Executions Letter.

310 See NYSE Letter 1 at 6; and Nasdaq Statement at 19-20. See also supra notes 295-297 (discussing Nasdaq's assertion that the proposal would affect public confidence in the markets, resulting in decreased liquidity and more susceptibility to manipulation).

311 See NYSE Letter 1 at 6; NYSE Report at 19; Nasdaq Statement at 17; and Pitt/Spatt Report at 22-23.

312 See NYSE Report at 19-20.

313 See Angel Letter at 5.

314 See BZX Letter 1 at 11; BZX Letter 2 at 9; and BZX Letter 4 at 1-2.

increased chances for manipulation ignore the supervisory responsibilities and capabilities of exchanges and the existing cross-market surveillance conducted by FINRA today.[315] As discussed in more detail below, BZX stated that it would continue to surveil for potentially manipulative activities and made commitments to enhance surveillance procedures and work with other SROs to detect and prevent manipulation through the use of Cboe Market Close.[316]

c. Commission Discussion and Findings

The Commission recognizes that, with or without Cboe Market Close, the potential exists that there may be market participants who may seek to engage in manipulative or illegal trading activity, including with respect to closing prices.[317] While an exchange must show that their proposal is designed to prevent fraudulent and manipulative acts and practices, the Act does not require an exchange to ensure, with certainty, that their proposal will not give rise to any attempted manipulation or illegal acts. Scholarly articles have suggested that closing auction manipulations are often characterized by large, unrepresentatively priced orders submitted in the final seconds of the auction.[318] Accordingly, while it is possible that the potential for

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315 See BZX Letter 1 at 11; and BZX Letter 2, at 9.

316 See BZX Letter 1 at 11; BZX Letter 2 at 9; and BZX Letter 4 at 1-2. See also infra Section III.E.3.

317 NYSE also asserted that arbitrageurs will look for opportunities presented by Cboe Market Close to "gam[e] the system." However, NYSE also acknowledged that, "[i]t is hard to predict all of the ways in which, and the degree to which, this might occur because it will depend on a wide range of variables, including the degree of usage of the [Cboe Market Close], the changes to order flow and liquidity provision in the primary listing exchange's closing mechanism, the profits realized from manipulation, and the vitality of market oversight." See NYSE Report at 19-22. Further, the Pitt/Spatt Report acknowledged that, "closing prices are inherently somewhat vulnerable to manipulation." See Pitt/Spatt Report at 22.

318 See Carole Comerton-Forde and Talis J. Putnins, "Measuring Closing Price Manipulation," Journal of Financial Intermediation 20, 135-158 (2011), available at https://www.sciencedirect.com/science/article/pii/S104295731000015X; and Talis J.

manipulation could increase if the closing auctions on the primary listing exchanges decreased significantly in size, existing surveillance systems should be able to continue to detect such activity.[319] With respect to NYSE's comment that the proposal would provide an incentive for market participants to influence the closing price when they know they have been successfully matched on BZX, market participants can attempt this today with respect to existing off-exchange MOC matching services, including ATSs (which are surveilled by FINRA), and any attempts to use Cboe Market Close to do this would result in such activity occurring on BZX, a national securities exchange with obligations under the Act to regulate and surveil its market. Similarly, entering non-bona fide orders in an attempt to give the appearance of high demand is not a new form of potential manipulation unique to the proposal; rather, similar forms of market manipulation exist today, and the Commission believes that current surveillance systems are designed to detect such activity.

3. Surveillance

a. Comments on the Proposal

Lastly, some commenters argued that BZX and other exchanges would need to develop new cross-market surveillance systems in order to address these risks and expressed concerns regarding the costs and complexities of doing so.[320] For example, NYSE stated that there are no

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Putnins, "Market Manipulation: A Survey," Journal of Economic Surveys, 26, 952-967 (2012), available at http://onlinelibrary.wiley.com/doi/10.1111/j.1467-6419.2011.00692.x/full.

319 See infra Section III.E.3 for discussion of the obligations under the Act of national securities exchanges, as self-regulatory organizations, to surveil for manipulative activity on their markets.

320 See Nasdaq Letter 2 at 14; Nasdaq Statement at 20-21; Pitt/Spatt Report at 23-24; NYSE Report at 20-21; NYSE Letter 1 at 6; NYSE Statement at 30; GTS Securities Letter 1 at 6; and GTS Securities Letter 2 at 5.

safeguards built-in to the proposal to prevent manipulation, and identifying manipulative activity would also become more difficult under the proposal due to the time difference between the Cboe Market Close and primary listing exchange closing auctions and the cross-market nature of the manipulation.[321] Further, NYSE argued that market participants may have legitimate reasons to want to reverse their trades that have been matched in Cboe Market Close by trading in the primary listing exchange auction, and thus, it would be difficult to distinguish between manipulative behavior and legitimate trading activity.[322] Both NYSE and Nasdaq stated that BZX's commitment to enhance its surveillance mechanisms[323] and its statutory obligation to surveil for manipulative activity was insufficient to render the proposal consistent with the Act.[324] Nasdaq recommended that, at a minimum, BZX should be required to memorialize its enhanced procedures in its rules, [325] and NYSE added that BZX must demonstrate affirmatively that the proposal is designed to prevent fraudulent activity, not merely mitigate the risks of such activity.[326] In contrast, IEX argued that participation in the Cboe Market Close, followed by activity intended to affect the closing price on the primary listing exchange, would make

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321 See NYSE Report at 20-21; NYSE Letter 1 at 6; and NYSE Statement at 30.

322 See NYSE Report at 19; and NYSE Statement at 30.

323 See infra notes 329-338 and accompanying text.

324 See Nasdaq Statement at 21; and NYSE Statement at 31. As support for this argument, Nasdaq and NYSE referenced a Commission disapproval of a proposal by NYSE to eliminate certain restrictions on the trading activities of DMMs that were designed to address the risk of manipulative activity. See Nasdaq Statement at 21; and NYSE Statement at 31 (discussing the Commission's disapproval of NYSE-2016-17). See also NYSE DMM Disapproval Order, supra note 304.

325 See Nasdaq Statement at 21 (citing the Commission's Benchmark Disapproval Order as support for the assertion that an exchange must include any enhanced procedures to mitigate risk in its rules). See also Securities Exchange Act Release No. 68629 (Jan. 11, 2013), 78 FR 3928 (Jan. 17, 2013) (NASDAQ-2012-059).

326 See NYSE Statement at 31.

manipulation of closing crosses as or more conspicuous than other trading patterns for which exchanges already conduct surveillance.[327] Two commenters also stated that the Consolidated Audit Trail would provide a new tool for detecting any such manipulation.[328]

b. BZX Response to Comments

In response, BZX made several arguments as to why it does not believe that the proposal creates a potential for increased manipulation.[329] BZX stated that, should the Commission approve the proposal, both it and FINRA, as well as other exchanges, would continue to surveil for manipulative activity and seek to address such behavior.[330] BZX further stated that it is "committed to enhancing its current surveillance procedures and working with other [SROs], including FINRA, the NYSE, and Nasdaq, to ensure that any potential inappropriate trading activity is detected and prevented."[331] In addition, BZX stated that, consistent with its obligations as an SRO, it currently surveils all trading activity on its system including trading activity at the close, and intends to implement and enhance in-house surveillance processes designed to detect potential manipulative activity related to the Cboe Market Close.[332] In particular, BZX stated that the surveillance would include, among other things, monitoring for possible non-bona fide order activity, such as the submission of orders for the purpose of gaining an informational advantage, the entry of large size orders on one side of the market, or other

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327 See IEX Letter at 2.

328 See id. at 2-3; and Bollerman Letter at 2.

329 See BZX Letter 1 at 11-12; and BZX Letter 2 at 9.

330 See BZX Letter 1 at 11; and BZX Letter 2 at 9.

331 See Letter from Joanne Moffic-Silver, Executive Vice President, General Counsel, and Corporate Secretary, Cboe Global Markets, Inc. (Jan. 12, 2018) ("BZX Letter 4") at 1. See also BZX Statement at 21-22.

332 See BZX Letter 4 at 1.

trading activity that would indicate a pattern or practice aimed at manipulating the closing auction.[333] BZX committed to provide the Commission staff its surveillance plan and stated that it would implement that plan on the date that Cboe Market Close becomes available to market participants.[334]

BZX also highlighted the cross-market surveillance that FINRA conducts on its behalf.[335] In particular, BZX stated that FINRA's comprehensive cross-market surveillance program can monitor for nefarious activity by a market participant across two or more markets and includes surveillance designed to detect activity geared towards manipulating a security's closing price.[336] Stating that it currently provides FINRA the necessary trade data to conduct such surveillance, BZX represented that it is also committed to work with FINRA on enhancements to the current cross market surveillance program to account for any potential manipulative activity by participants in Cboe Market Close and the primary listing exchanges' closing auctions.[337] BZX also stated that, as a member of the Intermarket Surveillance Group ("ISG"), it would share the necessary information concerning Cboe Market Close with NYSE and Nasdaq, as part of their participation in ISG, to allow them to properly surveil for potentially manipulative activity within their closing auctions.[338]

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333 See BZX Letter 4 at 1.

334 See id. at 2.

335 See id. Under regulatory services agreements, national securities exchanges, such as BZX, may enter into contracts with other regulatory entities, such as FINRA, to provide regulatory services on the exchange's behalf. Notwithstanding the existence of a regulatory services agreement, the exchange retains legal responsibility for the regulation of its members and its market and the performance of its regulatory services provider.

336 Id.

337 See id. at 2; and BZX Statement at 21.

338 See BZX Letter 4 at 2; and BZX Statement at 21.

c. Commission Discussion and Findings

With respect to manipulative or illegal trading activity more broadly, self-regulatory organizations such as BZX and the primary listing exchanges have an obligation under the Act to surveil for manipulative activity on their markets. The Commission agrees with commenters who say that relying on this obligation alone and/or a mere declaration that existing surveillances are adequate is not necessarily sufficient to render a proposal consistent with the Act. At the same time, contrary to commenters' assertions that enhanced surveillance procedures must be included as part of the exchange's proposed rules,[339] exchanges generally do not delineate detailed surveillance procedures in their rules as doing so could present a security risk and potentially give those seeking to engage in manipulative behavior advance notice as to how the exchange will be monitoring and surveilling for such behavior and potentially a roadmap for evading detection.[340]

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339 As noted above, Nasdaq argued that the Commission made clear in its Benchmark Disapproval Order that if an exchange represents that it will enhance its oversight procedures to mitigate the risks of a proposal, it must, at a minimum, memorialize such procedures in its rules. See supra note 325. However, the Commission does not agree that the Benchmark Disapproval Order imposed such a requirement. The Benchmark Disapproval Order discussed the lack of order handling requirements being set forth in the Nasdaq proposed rule change. The Benchmark Order Disapproval did not express the need for surveillance procedures to be set forth in a proposed rule change. The Benchmark Disapproval Order discussion was specific to concerns regarding risk controls of Rule 15c3-5 and the general statements that were made by Nasdaq that although such Rule 15c3-5 risk controls were inapplicable, it would impose substantial risk controls on the proposed Benchmark Orders. The Commission noted in its disapproval order that Nasdaq had not amended the proposed rule change to address this concern or detail its commitments, but that if appropriately developed and reflected in the proposed rule change, the Commission's concerns could have been potentially addressed. See Benchmark Disapproval Order at 3929-30.

340 The staff reviews the adequacy and effectiveness of self-regulatory organizations' surveillance procedures and programs as part of its routine and for-cause examinations and inspections.

For the reasons discussed above, the Commission believes that the proposal raises only a minimal risk of increased manipulation, and this, coupled with the detailed commitments made by BZX to enhance surveillance and share surveillance plans with the Commission staff,[341] support the Commission's finding that BZX has demonstrated that its proposal is designed to prevent fraudulent and manipulative acts and practices.[342] In particular, the Commission believes that existing self-regulatory organization surveillance and enforcement activity, and the enhanced measures that the Exchange has represented that it would take to surveil for and detect manipulative activity related to the proposal, would help to deter market participants who might otherwise seek to try and abuse Cboe Market Close or a closing auction on a primary listing exchange. While the Commission agrees with BZX that the proposal raises minimal risk of increased manipulation, it also believes that it is prudent and consistent with an Exchange's

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341 Id.

342 As noted above, NYSE and Nasdaq referenced the NYSE DMM Disapproval Order as support for the argument that an exchange must affirmatively demonstrate that its proposal is designed to prevent fraudulent activity and that a mere commitment to comply with market surveillance obligations is insufficient. See NYSE DMM Disapproval Order. As stated, the Commission generally agrees with these principles; however, it believes that the factual differences between the NYSE DMM Disapproval Order and the current BZX proposal support a different outcome. In particular, in the case of the NYSE DMM Disapproval Order, NYSE proposed to eliminate existing restrictions on DMM trading activity that, when adopted and subsequently retained through several market model changes, were determined to be necessary to address the risk of DMM manipulative activity. Although NYSE asserted that the rule was no longer needed because of developments in the equity markets and that existing rules and surveillances would address the manipulation risk, the Commission found, among other things, that NYSE had not met its burden of establishing how these other rules and surveillance procedures were an adequate substitute for the rule that NYSE sought to delete. See NYSE DMM Disapproval Order at 33537 (stating that, "the Commission believes that NYSE and NYSE MKT have merely asserted that, but not explained how, existing surveillances can act as an adequate substitute for this bright-line rule"). In contrast, as described above, the Commission believes that BZX has established that there is minimal risk of increased manipulation from its current proposal and has described its plans for enhanced surveillance.

surveillance obligations to undertake efforts to tailor and enhance surveillance measures in anticipation of any potentially manipulative conduct that may arise in connection with Cboe Market Close. Such actions to enhance surveillance procedures are not unique to the current proposal; rather, exchanges commonly make changes to their surveillance programs to better detect manipulative or improper behavior in connection with proposed rule changes to implement new functionality. Thus, the Commission expects that, once the proposal is implemented, BZX will continue to closely monitor Cboe Market Close and implement new or enhanced surveillance measures, as necessary, designed to identify potential manipulative behavior that potentially could result from Cboe Market Close. Further, the Commission expects that, as required by Section 19(g)(1) of the Act,[343] BZX, FINRA, and other national securities exchanges will enforce compliance by their members and persons associated with their members with the Act, the rules and regulations thereunder, and their own rules, including with regard to manipulative conduct.

With respect to NYSE's comment on the potential challenges that time differences or cross-market activity may pose in identifying manipulative activity,[344] these issues also exist today with respect to existing off-exchange MOC matching services as well as to trading generally. Surveillance procedures already must account for time differences and cross-market activity throughout the trading day. To the extent that such attempted manipulative activity instead occurs on BZX, it would simply shift surveillance from FINRA to BZX, a national securities exchange with obligations under the Act to regulate and surveil its market. Further, with regard to comments concerning the challenge of differentiating between legitimate trading

343 15 U.S.C. 78s(g)(1).

344 See supra note 321 and accompanying text.

and manipulative activity, this too exists today with regard to many different trading scenarios and is not unique to this proposal. Despite the challenges of detecting and accurately identifying manipulative activity, SROs have been able to design their surveillance programs to flag potentially manipulative behavior in a variety of contexts and then subsequently further analyze and investigate such behavior to determine whether, in fact, there is evidence of improper activity. The Commission expects the same to be true with regard to Cboe Market Close. Further, the Commission agrees with the commenters that noted that the Consolidated Audit Trail is designed to provide an additional cross-market surveillance mechanism that should help to identify and prevent any potentially manipulative activity.

F. Amendment No. 2

BZX filed Amendment No. 2 to the proposed rule change in response to the statements submitted by Nasdaq and NYSE which stated, among other arguments, that Cboe Market Close would potentially cause BZX to violate Rule 201(b) of Regulation SHO.[345]

Rule 201(b) of Regulation SHO generally requires that trading centers, such as the Exchange, establish, maintain, and enforce written policies and procedures that are reasonably designed to (i) prevent the execution or display of a short sale order of a covered security at a price that is less than or equal to the current national best bid if the price of that covered security decreases by 10% or more from that covered security's closing price as determined by the listing market for that covered security as of the end of regular trading hours on the prior day, and (ii) impose such short sale circuit breaker restriction for the remainder of the day and the following day. In addition, the Exchange's policies and procedures, among other things, must be reasonably designed to permit the execution or display of a short sale order of a covered security

345 See supra note 10.

marked "short exempt" without regard to whether the order is at a price that is less than or equal to the current national best bid.

In Amendment No. 2, the Exchange recognized that since the Cboe Market Close will match buy and sell MOC orders at 3:35 p.m. without knowing the later determined execution price (namely, the official closing price as determined by the primary listing exchange), there is a possibility that a short sale MOC order that is matched for execution in the Cboe Market Close could result in an execution price that violates Rule 201 of Regulation SHO. To prevent such a violation of Rule 201 of Regulation SHO, the Exchange proposed to reject all short sale MOC orders that are designated for participation in the Cboe Market Close. The Exchange noted, however, that MOC orders marked "short exempt" are not subject to the short sale circuit breaker restriction under Regulation SHO, and would therefore be accepted for participation in the Cboe Market Close.

One commenter addressed the proposed Amendment No. 2.[346] In particular, Nasdaq acknowledged that the proposed amendment could help BZX avoid violations of Rule 201 of Regulation SHO.[347] The Commission believes that the Exchange's proposed handling of short sale MOC orders and "short exempt" MOC orders in the context of the Cboe Market Close, as described in Amendment No. 2, will help to ensure that the Exchange is in compliance with its responsibilities under Rule 201(b) of Regulation SHO and is otherwise consistent with the protection of investors and in the public interest.

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346 See Nasdaq Letter 4.

347 See id. (noting also Nasdaq's belief that Amendment No. 2 did not address any of the other issues that had been raised in prior comment letters).

IV. Conclusion

For the foregoing reasons, the Commission finds that the proposed rule change is consistent with the Act and the rules and regulations thereunder applicable to a national securities exchange.

IT IS THEREFORE ORDERED, pursuant to Rule 431 of the Commission's Rules of Practice, that the earlier action taken by delegated authority, Exchange Act Release No. 82522 (January 17, 2018), 83 FR 3205 (January 23, 2018), is set aside and, pursuant to Section 19(b)(2) of the Exchange Act, the proposed rule change (SR-BatsBZX-2017-34), as modified by Amendment No. 1 and Amendment No. 2, hereby is approved.

By the Commission.

J. Matthew DeLesDernier
Assistant Secretary