

## OMB APPROVAL

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Required fields are shown with yellow backgrounds and asterisks.

Page 1 of \* 68

SECURITIES AND EXCHANGE COMMISSION  
 WASHINGTON, D.C. 20549  
 Form 19b-4

File No.\* SR - 2018 - \* 014

Amendment No. (req. for Amendments \*)

Filing by Cboe BYX Exchange, Inc.

Pursuant to Rule 19b-4 under the Securities Exchange Act of 1934

Initial \* ☒ Amendment \* ☐ Withdrawal ☐ Section 19(b)(2) \* ☒ Section 19(b)(3)(A) \* ☐ Section 19(b)(3)(B) \* ☐

Rule

Pilot ☐ Extension of Time Period  
for Commission Action \* ☐ Date Expires \*

☐ 19b-4(f)(1) ☐ 19b-4(f)(4)  
☐ 19b-4(f)(2) ☐ 19b-4(f)(5)  
☐ 19b-4(f)(3) ☐ 19b-4(f)(6)

Notice of proposed change pursuant to the Payment, Clearing, and Settlement Act of 2010

Security-Based Swap Submission pursuant  
to the Securities Exchange Act of 1934

Section 806(e)(1) \* ☐ Section 806(e)(2) \* ☐

Section 3C(b)(2) \* ☐

Exhibit 2 Sent As Paper Document



Exhibit 3 Sent As Paper Document



### Description

Provide a brief description of the action (limit 250 characters, required when Initial is checked \*).

The Exchnage proposes a rule change to amend Rule 11.24 to make permanent the Retail Price Improvement Program, which is currently offered on a pilot basis.

### Contact Information

Provide the name, telephone number, and e-mail address of the person on the staff of the self-regulatory organization prepared to respond to questions and comments on the action.

First Name \* Adrian Last Name \* Griffiths  
 Title \* Assistant General Counsel  
 E-mail \* agriffiths@cboe.com  
 Telephone \* (646) 856-8723 Fax

### Signature

Pursuant to the requirements of the Securities Exchange Act of 1934,

has duly caused this filing to be signed on its behalf by the undersigned thereunto duly authorized.

(Title \*)

Date 07/30/2018

By Anders Franzon

(Name \*)

SVP, Deputy General Counsel

NOTE: Clicking the button at right will digitally sign and lock  
this form. A digital signature is as legally binding as a physical  
signature, and once signed, this form cannot be changed.

afranzon@cboe.com

SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

For complete Form 19b-4 instructions please refer to the EFFF website.

**Form 19b-4 Information \***

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The self-regulatory organization must provide all required information, presented in a clear and comprehensible manner, to enable the public to provide meaningful comment on the proposal and for the Commission to determine whether the proposal is consistent with the Act and applicable rules and regulations under the Act.

**Exhibit 1 - Notice of Proposed Rule Change \***

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The Notice section of this Form 19b-4 must comply with the guidelines for publication in the Federal Register as well as any requirements for electronic filing as published by the Commission (if applicable). The Office of the Federal Register (OFR) offers guidance on Federal Register publication requirements in the Federal Register Document Drafting Handbook, October 1998 Revision. For example, all references to the federal securities laws must include the corresponding cite to the United States Code in a footnote. All references to SEC rules must include the corresponding cite to the Code of Federal Regulations in a footnote. All references to Securities Exchange Act Releases must include the release number, release date, Federal Register cite, Federal Register date, and corresponding file number (e.g., SR-[SRO]-xx-xx). A material failure to comply with these guidelines will result in the proposed rule change being deemed not properly filed. See also Rule 0-3 under the Act (17 CFR 240.0-3)

**Exhibit 1A- Notice of Proposed Rule Change, Security-Based Swap Submission, or Advance Notice by Clearing Agencies \***

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The Notice section of this Form 19b-4 must comply with the guidelines for publication in the Federal Register as well as any requirements for electronic filing as published by the Commission (if applicable). The Office of the Federal Register (OFR) offers guidance on Federal Register publication requirements in the Federal Register Document Drafting Handbook, October 1998 Revision. For example, all references to the federal securities laws must include the corresponding cite to the United States Code in a footnote. All references to SEC rules must include the corresponding cite to the Code of Federal Regulations in a footnote. All references to Securities Exchange Act Releases must include the release number, release date, Federal Register cite, Federal Register date, and corresponding file number (e.g., SR-[SRO]-xx-xx). A material failure to comply with these guidelines will result in the proposed rule change, security-based swap submission, or advance notice being deemed not properly filed. See also Rule 0-3 under the Act (17 CFR 240.0-3)

**Exhibit 2 - Notices, Written Comments, Transcripts, Other Communications**

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Exhibit Sent As Paper Document

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Copies of notices, written comments, transcripts, other communications. If such documents cannot be filed electronically in accordance with Instruction F, they shall be filed in accordance with Instruction G.

**Exhibit 3 - Form, Report, or Questionnaire**

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Exhibit Sent As Paper Document

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Copies of any form, report, or questionnaire that the self-regulatory organization proposes to use to help implement or operate the proposed rule change, or that is referred to by the proposed rule change.

**Exhibit 4 - Marked Copies**

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The full text shall be marked, in any convenient manner, to indicate additions to and deletions from the immediately preceding filing. The purpose of Exhibit 4 is to permit the staff to identify immediately the changes made from the text of the rule with which it has been working.

**Exhibit 5 - Proposed Rule Text**

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The self-regulatory organization may choose to attach as Exhibit 5 proposed changes to rule text in place of providing it in Item I and which may otherwise be more easily readable if provided separately from Form 19b-4. Exhibit 5 shall be considered part of the proposed rule change.

**Partial Amendment**

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If the self-regulatory organization is amending only part of the text of a lengthy proposed rule change, it may, with the Commission's permission, file only those portions of the text of the proposed rule change in which changes are being made if the filing (i.e. partial amendment) is clearly understandable on its face. Such partial amendment shall be clearly identified and marked to show deletions and additions.

1. Text of the Proposed Rule Change

(a) Pursuant to the provisions of Section 19(b)(1) of the Securities Exchange Act of 1934 (“Act”)<sup>1</sup> and Rule 19b-4 thereunder,<sup>2</sup> Cboe BYX Exchange, Inc. (“BYX” or the “Exchange”) is filing with the Securities and Exchange Commission (the “Commission”) a proposed rule change to make permanent Rule 11.24, which sets forth the Exchange’s pilot Retail Price Improvement Program.

The text of the proposed rule change is available on the Exchange’s website at <http://markets.cboe.com/>, at the Exchange’s principal office and at the Public Reference Room of the Commission.

(b) The Exchange does not believe that the proposed rule change will have any direct or significant indirect effect on any other Exchange rule in effect at the time of this filing.

(c) Not applicable.

2. Procedures of the Self-Regulatory Organization

(a) The Exchange’s President (or designee) pursuant to delegated authority approved the proposed rule change on July 27, 2018.

(b) Please refer questions and comments on the proposed rule change to Patrick Sexton, Executive Vice President, General Counsel, and Corporate Secretary, (312) 786-7462, or Adrian Griffiths, Assistant General Counsel, (646) 856-8723.

3. Self-Regulatory Organization’s Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

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<sup>1</sup> 15 U.S.C. 78s(b)(1).

<sup>2</sup> 17 CFR 240.19b-4.

(a) Purpose

The purpose of the proposed rule change is to amend Rule 11.24 to make permanent the Retail Price Improvement Program (the “Program”), which is currently offered on a pilot basis. The Exchange has operated the pilot for a six year period and believes that it has been successful in its stated goal of providing price improvement opportunities to retail investors. The analysis conducted by the Exchange shows that retail investors have been provided a total of \$4.5 million of price improvement during the 2.5 year period reviewed from January 2016 through June 2018. In addition, the Exchange’s analysis shows that the Program has provided these benefits to retail investors without having an adverse impact on the broader market. The proposal provides an analysis of the economic benefits to retail investors and the marketplace flowing from operation of the Program, which the Exchange believes supports making the Program permanent.

Background

In November 2012, the Commission approved the Program on a pilot basis.<sup>3</sup> The Program is designed to attract retail order flow to the Exchange, and allow such order flow to receive potential price improvement. The Program is currently limited to trades occurring at prices equal to or greater than \$1.00 per share.<sup>4</sup> Under the Program, a class of market participant called a Retail Member Organization (“RMO”) is eligible to submit

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<sup>3</sup> See Securities Exchange Act Release No. 68303 (November 27, 2012), 77 FR 71652 (December 3, 2012) (“RPI Approval Order”) (SR-BYX-2012-019).

<sup>4</sup> The Exchange will periodically notify the membership regarding the securities included in the Program through an information circular.

certain retail order flow (“Retail Orders”) to the Exchange. Users<sup>5</sup> are permitted to provide potential price improvement for Retail Orders<sup>6</sup> in the form of non-displayed interest that is better than the national best bid that is a Protected Quotation (“Protected NBB”) or the national best offer that is a Protected Quotation (“Protected NBO”, and together with the Protected NBB, the “Protected NBBO”).<sup>7</sup> The Program was approved by the Commission on a pilot basis running one-year from the date of implementation.<sup>8</sup> The Commission approved the Program on November 27, 2012.<sup>9</sup> The Exchange implemented the Program on January 11, 2013, and has extended the pilot period five times.<sup>10</sup> The pilot period for the Program is scheduled to expire on July 31, 2018.<sup>11</sup> The

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<sup>5</sup> A “User” is defined in Rule 1.5(cc) as any member or sponsored participant of the Exchange who is authorized to obtain access to the System.

<sup>6</sup> A “Retail Order” is defined in Rule 11.24(a)(2) as an agency order that originates from a natural person and is submitted to the Exchange by a RMO, provided that no change is made to the terms of the order with respect to price or side of market and the order does not originate from a trading algorithm or any computerized methodology. See Rule 11.24(a)(2).

<sup>7</sup> The term Protected Quotation is defined in BYX Rule 1.5(t) and has the same meaning as is set forth in Regulation NMS Rule 600(b)(58). The terms Protected NBB and Protected NBO are defined in BYX Rule 1.5(s). The Protected NBB is the best-priced protected bid and the Protected NBO is the best-priced protected offer. Generally, the Protected NBB and Protected NBO and the national best bid (“NBB”) and national best offer (“NBO”, together with the NBB, the “NBBO”) will be the same. However, a market center is not required to route to the NBB or NBO if that market center is subject to an exception under Regulation NMS Rule 611(b)(1) or if such NBB or NBO is otherwise not available for an automatic execution. In such case, the Protected NBB or Protected NBO would be the best-priced protected bid or offer to which a market center must route interest pursuant to Regulation NMS Rule 611.

<sup>8</sup> See RPI Approval Order, supra note 3 at 71652.

<sup>9</sup> Id.

<sup>10</sup> See Securities Exchange Act Release Nos. 71249 (January 7, 2014), 79 FR 2229 (January 13, 2014) (SR-BYX-2014-001); 74111 (January 22, 2015), 80 FR 4598 (January 28, 2015) (SR-BYX-2015-05); 76965 (January 22, 2016), 81 FR 4682 (January 27, 2016) (SR-BYX-2016-01); 78180 (June 28, 2016), 81 FR 43306

Exchange believes that the Program has been successful in its goal of providing price improvement to Retail Orders, and is therefore proposing to amend Rule 11.24 to make this pilot permanent so that retail investors can continue to reap the benefits of the Program.<sup>12</sup>

The SEC approved the Program on a pilot basis, in part, because it concluded, “the Program is reasonably designed to benefit retail investors by providing price improvement to retail order flow.”<sup>13</sup> The Commission also found that “while the Program would treat retail order flow differently from order flow submitted by other market participants, such segmentation would not be inconsistent with Section 6(b)(5) of the Act, which requires that the rules of an exchange are not designed to permit unfair discrimination.”<sup>14</sup> As the SEC acknowledged, the retail order segmentation was designed to create greater retail order flow competition and thereby increase the amount of this flow to transparent and well-regulated exchanges. This would help to ensure that retail investors benefit from competitive price improvement that exchange-based liquidity providers provide. As discussed below, the Exchange believes that the Program data supports the conclusion that it provides valuable price to retail investors that they may not

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(July 1, 2016) (SR-BYX-2016-15); 81368 (August 10, 2017), 82 FR 38960 (August 16, 2017) (SR-BYX-2017-18).

<sup>11</sup> Concurrently with the filing of this proposed rule change, the Exchange is filing to extend the current pilot period until the earlier of approval of the filing to make this rule permanent (i.e., this proposed rule change) or December 31, 2018.

<sup>12</sup> The Program will continue to only apply to trades occurring at prices equal to or greater than \$1.00 per share.

<sup>13</sup> See RPI Approval Order, supra note 3 at 71655.

<sup>14</sup> Id.

otherwise have received, and that it is therefore appropriate to make the Program permanent.

### Definitions

The Exchange adopted the following definitions under Rule 11.24(a):

First, the term “Retail Member Organization” is defined as a Member (or a division thereof) that has been approved by the Exchange to submit Retail Orders.

Second, the term “Retail Order” is defined as an agency order or riskless principal that meets the criteria of FINRA Rule 5320.03<sup>15</sup> that originates from a natural person and is submitted to the Exchange by a Retail Member Organization, provided that no change is made to the terms of the order with respect to price or side of market and the order does not originate from a trading algorithm or any other computerized methodology. A Retail Order is an Immediate or Cancel (“IOC”) Order and shall operate in accordance with Rule 11.24(f). A Retail Order may be an odd lot, round lot, or mixed lot.

Finally, the term “Retail Price Improvement Order” or “RPI Order” consists of non-displayed interest on the Exchange that is priced better than the Protected NBB or Protected NBO by at least \$0.001 and that is identified as such (“RPI interest”).<sup>16</sup> The

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<sup>15</sup> FINRA Rule 5320.03 clarifies that an RMO may enter Retail Orders on a riskless principal basis, provided that (i) the entry of such riskless principal orders meet the requirements of FINRA Rule 5320.03, including that the RMO maintains supervisory systems to reconstruct, in a time-sequenced manner, all Retail Orders that are entered on a riskless principal basis; and (ii) the RMO submits a report, contemporaneously with the execution of the facilitated order, that identifies the trade as riskless principal.

<sup>16</sup> Exchange systems prevent Retail Orders from interacting with RPI Orders if the RPI Order is not priced at least \$0.001 better than the Protected NBBO. The Exchange notes, however, that price improvement of \$0.001 would be a minimum requirement and Users could enter RPI Orders that better the Protected NBBO by more than \$0.001. Exchange systems will accept RPI Orders without a minimum price improvement value; however, such interest will execute at its floor or

System<sup>17</sup> will monitor whether RPI buy or sell interest, adjusted by any offset and subject to the ceiling or floor price, is eligible to interact with incoming Retail Orders. An RPI Order remains non-displayed in its entirety (the buy or sell interest, the offset, and the ceiling or floor). An RPI Order may also be entered in a sub-penny increment with an explicit limit price. Any User is permitted, but not required, to submit RPI Orders. An RPI Order may be an odd lot, round lot or mixed lot.

The price of an RPI Order is determined by a User's entry of the following into the Exchange: (1) RPI buy or sell interest; (2) an offset, if any; and (3) a ceiling or floor price. RPI Orders submitted with an offset are similar to other peg orders available to Users in that the order is tied or "pegged" to a certain price, and would have its price automatically set and adjusted upon changes in the Protected NBBO, both upon entry and any time thereafter. RPI buy or sell interest is typically entered to track the Protected NBBO, that is, RPI Orders are typically submitted with an offset. The offset is a predetermined amount by which the User is willing to improve the Protected NBBO, subject to a ceiling or floor price. The ceiling or floor price is the amount above or below which the User does not wish to trade. RPI Orders in their entirety (the buy or sell interest, the offset, and the ceiling or floor) will remain non-displayed. The Exchange also allows Users to enter RPI Orders that establish the exact limit price, which is similar to a non-displayed limit order currently accepted by the Exchange except the Exchange

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ceiling price only if such floor or ceiling price is better than the Protected NBBO by \$0.001 or more.

<sup>17</sup> The "System" is defined in BYX Rule 1.5(aa) 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."



accepts sub-penny limit prices on RPI Orders in increments of \$0.001. The Exchange monitors whether RPI buy or sell interest, adjusted by any offset and subject to the ceiling or floor price, is eligible to interact with incoming Retail Orders.

Users and RMOs may enter odd lots, round lots or mixed lots as RPI Orders and as Retail Orders respectively. As discussed below, RPI Orders are ranked and allocated according to price and time of entry into the System consistent with Rule 11.12 and therefore without regard to whether the size entered is an odd lot, round lot or mixed lot amount. Similarly, Retail Orders interact with RPI Orders according to the Priority and Allocation rules of the Program and without regard to whether they are odd lots, round lots or mixed lots. Finally, Retail Orders are designated as Type 1 or Type 2 without regard to the size of the order.

RPI Orders interact with Retail Orders as follows. Assume a User enters RPI sell interest with an offset of \$0.001 and a floor of \$10.10 while the Protected NBO is \$10.11. The RPI Order could interact with an incoming buy Retail Order at \$10.109. If, however, the Protected NBO was \$10.10, the RPI Order could not interact with the Retail Order because the price required to deliver the minimum \$0.001 price improvement (\$10.099) would violate the User's floor of \$10.10. If a User otherwise enters an offset greater than the minimum required price improvement and the offset would produce a price that would violate the User's floor, the offset would be applied only to the extent that it respects the User's floor. By way of illustration, assume RPI buy interest is entered with an offset of \$0.005 and a ceiling of \$10.112 while the Protected NBB is at \$10.11. The RPI Order could interact with an incoming sell Retail Order at \$10.112, because it would produce the required price improvement without violating the User's ceiling, but it could

not interact above the \$10.112 ceiling. Finally, if a User enters an RPI Order without an offset (i.e., an explicitly priced limit order), the RPI Order will interact with Retail Orders at the level of the User's limit price as long as the minimum required price improvement is produced. Accordingly, if RPI sell interest is entered with a limit price of \$10.098 and no offset while the Protected NBO is \$10.11, the RPI Order could interact with the Retail Order at \$10.098, producing \$0.012 of price improvement. The System will not cancel RPI interest when it is not eligible to interact with incoming Retail Orders; such RPI interest will remain in the System and may become eligible again to interact with Retail Orders depending on the Protected NBBO.

#### RMO Qualifications and Application Process

Under Rule 11.24(b), any Member may qualify as an RMO if it conducts a retail business or routes retail orders on behalf of another broker-dealer. For purposes of Rule 11.24(b), conducting a retail business shall include carrying retail customer accounts on a fully disclosed basis. Any Member that wishes to obtain RMO status is required to submit: (1) an application form; (2) supporting documentation sufficient to demonstrate the retail nature and characteristics of the applicant's order flow; and (3) an attestation, in a form prescribed by the Exchange, that substantially all orders submitted as Retail Orders will qualify as such under Rule 11.24.<sup>18</sup> The Exchange shall notify the applicant of its decision in writing.

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<sup>18</sup> For example, a prospective RMO could be required to provide sample marketing literature, website screenshots, other publicly disclosed materials describing the retail nature of their order flow, and such other documentation and information as the Exchange may require to obtain reasonable assurance that the applicant's order flow would meet the requirements of the Retail Order definition.

An RMO is required to have written policies and procedures reasonably designed to assure that it will only designate orders as Retail Orders if all requirements of a Retail Order are met. Such written policies and procedures must require the Member to (i) exercise due diligence before entering a Retail Order to assure that entry as a Retail Order is in compliance with the requirements of this rule, and (ii) monitor whether orders entered as Retail Orders meet the applicable requirements. If the RMO represents Retail Orders from another broker-dealer customer, the RMO's supervisory procedures must be reasonably designed to assure that the orders it receives from such broker-dealer customer that it designates as Retail Orders meet the definition of a Retail Order. The RMO must (i) obtain an annual written representation, in a form acceptable to the Exchange, from each broker-dealer customer that sends it orders to be designated as Retail Orders that entry of such orders as Retail Orders will be in compliance with the requirements of this rule, and (ii) monitor whether its broker-dealer customers' Retail Order flow continues to meet the applicable requirements.<sup>19</sup>

If the Exchange disapproves the application, the Exchange provides a written notice to the Member. The disapproved applicant could appeal the disapproval by the Exchange as provided in Rule 11.24(d), and/or reapply for RMO status 90 days after the disapproval notice is issued by the Exchange. An RMO also could voluntarily withdraw from such status at any time by giving written notice to the Exchange.

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<sup>19</sup> The Exchange or another self-regulatory organization on behalf of the Exchange will review an RMO's compliance with these requirements through an exam-based review of the RMO's internal controls.

### Failure of RMO to Abide by Retail Order Requirements

Rule 11.24(c) addresses an RMO's failure to abide by Retail Order requirements.

If an RMO designates orders submitted to the Exchange as Retail Orders and the Exchange determines, in its sole discretion, that those orders fail to meet any of the requirements of Retail Orders, the Exchange may disqualify a Member from its status as an RMO. When disqualification determinations are made, the Exchange provides a written disqualification notice to the Member. A disqualified RMO may appeal the disqualification as provided in Rule 11.24(d) and/or reapply for RMO status 90 days after the disqualification notice is issued by the Exchange.

### Appeal of Disapproval or Disqualification

Rule 11.24(d) provides appeal rights to Members. If a Member disputes the Exchange's decision to disapprove it as an RMO under Rule 11.24(b) or disqualify it under Rule 11.24(c), such Member ("appellant") may request, within five business days after notice of the decision is issued by the Exchange, that the Retail Price Improvement Program Panel ("RPI Panel") review the decision to determine if it was correct.

The RPI Panel consists of the Exchange's Chief Regulatory Officer ("CRO"), or a designee of the CRO, and two officers of the Exchange designated by the Chief Operating Officer ("COO"). The RPI Panel reviews the facts and render a decision within the time frame prescribed by the Exchange. The RPI Panel may overturn or modify an action taken by the Exchange and all determinations by the RPI Panel constitute final action by the Exchange on the matter at issue.

### Retail Liquidity Identifier

Under Rule 11.24(e), the Exchange disseminates an identifier when RPI interest priced at least \$0.001 better than the Exchange's Protected Bid or Protected Offer for a particular security is available in the System ("Retail Liquidity Identifier"). The Retail Liquidity Identifier is disseminated through consolidated data streams (i.e., pursuant to the Consolidated Tape Association Plan/Consolidated Quotation Plan, or CTA/CQ, for Tape A and Tape B securities, and the Nasdaq UTP Plan for Tape C securities) as well as through proprietary Exchange data feeds.<sup>20</sup> The Retail Liquidity Identifier reflects the symbol and the side (buy or sell) of the RPI interest, but does not include the price or size of the RPI interest. In particular, CQ and UTP quoting outputs include a field for codes related to the Retail Liquidity Identifier. The codes indicate RPI interest that is priced better than the Exchange's Protected Bid or Protected Offer by at least the minimum level of price improvement as required by the Program.

### Retail Order Designations

Under Rule 11.24(f), an RMO can designate how a Retail Order would interact with available contra-side interest as follows:

A Type 1-designated Retail Order will interact with available contra-side RPI Orders and other price improving contra-side interest but will not interact with other available contra-side interest in the System that is not offering price improvement or route to other markets. The portion of a Type 1-designated Retail Order that does not

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<sup>20</sup> The Exchange notes that the Retail Liquidity Identifier for Tape A and Tape B securities are disseminated pursuant to the CTA/CQ Plan. The identifier is also available through the consolidated public market data stream for Tape C securities. The processor for the Nasdaq UTP quotation stream disseminates the Retail Liquidity Identifier and analogous identifiers from other market centers that operate programs similar to the RPI Program.

execute against contra-side RPI Orders or other price improving liquidity will be immediately and automatically cancelled.

A Type 2-designated Retail Order will interact first with available contra-side RPI Orders and other price improving liquidity and then any remaining portion of the Retail Order will be executed as an Immediate-or-Cancel (“IOC”) Order pursuant to Rule 11.9(b)(1). A Type 2-designated Retail Order can either be submitted as a BYX Only Order<sup>21</sup> or as an order eligible for routing pursuant to Rule 11.13(a)(2).

#### Priority and Order Allocation

Under Rule 11.24(g), competing RPI Orders in the same security are ranked and allocated according to price then time of entry into the System. Executions occur in price/time priority in accordance with Rule 11.12. Any remaining unexecuted RPI interest remains available to interact with other incoming Retail Orders if such interest is at an eligible price. Any remaining unexecuted portion of the Retail Order will cancel or execute in accordance with Rule 11.24(f). The following example illustrates this method:

- Protected NBBO for security ABC is \$10.00 — \$10.05
- User 1 enters an RPI Order to buy ABC at \$10.015 for 500
- User 2 then enters an RPI Order to buy ABC at \$10.02 for 500
- User 3 then enters an RPI Order to buy ABC at \$10.035 for 500

An incoming Retail Order to sell ABC for 1,000 executes first against User 3’s bid for 500 at \$10.035, because it is the best priced bid, then against User 2’s bid for 500 at \$10.02, because it is the next best priced bid. User 1 is not filled because the entire size

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<sup>21</sup> A BYX Only Order is defined in BYX Rule 11.9(c)(4) and includes orders that are not eligible for routing to other trading centers.

of the Retail Order to sell 1,000 is depleted. The Retail Order executes against RPI Orders in price/time priority.

However, assume the same facts above, except that User 2's RPI Order to buy ABC at \$10.02 is for 100. The incoming Retail Order to sell 1,000 executes first against User 3's bid for 500 at \$10.035, because it is the best priced bid, then against User 2's bid for 100 at \$10.02, because it is the next best priced bid. User 1 then receives an execution for 400 of its bid for 500 at \$10.015, at which point the entire size of the Retail Order to sell 1,000 is depleted.

As a final example, assume the same facts as above, except that User 3's order was not an RPI Order to buy ABC at \$10.035, but rather, a non-displayed order to buy ABC at \$10.03. The result would be similar to the result immediately above, in that the incoming Retail Order to sell 1,000 executes first against User 3's bid for 500 at \$10.03, because it is the best priced bid, then against User 2's bid for 100 at \$10.02, because it is the next best priced bid. User 1 then receives an execution for 400 of its bid for 500 at \$10.015, at which point the entire size of the Retail Order to sell 1,000 is depleted.

#### Eligible Securities

All Regulation NMS securities traded on the Exchange are eligible for inclusion in the RPI Program. The Exchange limits the Program to trades occurring at prices equal to or greater than \$1.00 per share. Toward that end, Exchange trade validation systems prevent the interaction of RPI buy or sell interest (adjusted by any offset) and Retail Orders at a price below \$1.00 per share.<sup>22</sup> For example, if there is RPI buy interest

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<sup>22</sup> As discussed above, the price of an RPI is determined by a User's entry of buy or sell interest, an offset (if any) and a ceiling or floor price. RPI sell or buy interest typically tracks the Protected NBBO.

tracking the Protected NBB at \$0.99 with an offset of \$0.001 and a ceiling of \$1.02, Exchange trade validation systems would prevent the execution of the RPI Order at \$0.991 with a sell Retail Order with a limit of \$0.99. However, if the Retail Order was Type 2 as defined the Program,<sup>23</sup> it would be able to interact at \$0.99 with liquidity outside the Program in the Exchange's order book. In addition to facilitating an orderly<sup>24</sup> and operationally intuitive program, the Exchange believes that limiting the Program to trades equal to or greater than \$1.00 per share enabled it better to focus its efforts to monitor price competition and to assess any indications that data disseminated under the Program is potentially disadvantaging retail orders. As part of that review, the Exchange produced data throughout the pilot, which included statistics about participation, the frequency and level of price improvement provided by the Program, and any effects on the broader market structure.

#### Rationale for Making the Program Pilot Permanent

The Exchange established the Program in an attempt to attract retail order flow to the Exchange by providing an opportunity for price improvement to such order flow. The Exchange believes that the Program promotes transparent competition for retail order flow by allowing Exchange members to submit RPI Orders to interact with Retail

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<sup>23</sup> Type 2 Retail Orders are treated as IOC orders that execute against displayed and non-displayed liquidity in the Exchange's order book where there is no available liquidity in the Program. Type 2 Retail Orders can either be designated as eligible for routing or as BYX Only Orders, and thus non-routable, as described above.

<sup>24</sup> Given the limitation, the Program would have no impact on the minimum pricing increment for orders priced less than \$1.00 and therefore no effect on the potential of markets executing those orders to lock or cross. In addition, the non-displayed nature of the liquidity in the Program simply has no potential to disrupt displayed, protected quotes. In any event, the Program would do nothing to change the obligation of exchanges to avoid and reconcile locked and crossed markets under NMS Rule 610(d).



Orders. Such competition promotes efficiency by facilitating the price discovery process and generating additional investor interest in trading securities, thereby promoting capital formation and retail investment opportunities. The Program will continue to be limited to trades occurring at prices equal to or greater than \$1.00 per share.

In accordance with its filing establishing the pilot, the Exchange did “produce data throughout the pilot, which will include statistics about participation, the frequency and level of price improvement provided by the Program, and any effects on the broader market structure.”<sup>25</sup> The Exchange has fulfilled this obligation through the reports and assessments it has submitted to the Commission since the implementation of the pilot Program. The Exchange believes that the data provided to the Commission to date, as well as the data being provided in this proposed rule change, support the continued operation of the Program on a permanent basis.

The SEC stated in the RPI Approval Order that the Program could promote competition for retail order flow among execution venues, and that this could benefit retail investors by creating additional well-regulated and transparent price improvement opportunities for marketable retail order flow, most of which is currently executed in the Over-the-Counter (“OTC”) markets without ever reaching a public exchange.<sup>26</sup> The Exchange believes that it has achieved its goal of attracting retail order flow to the Exchange. As the Exchange’s analysis of the Program data below demonstrates, there has been consistent retail investor interest in the Program, which has provided tangible price improvement to those retail investors through a competitive pricing process over

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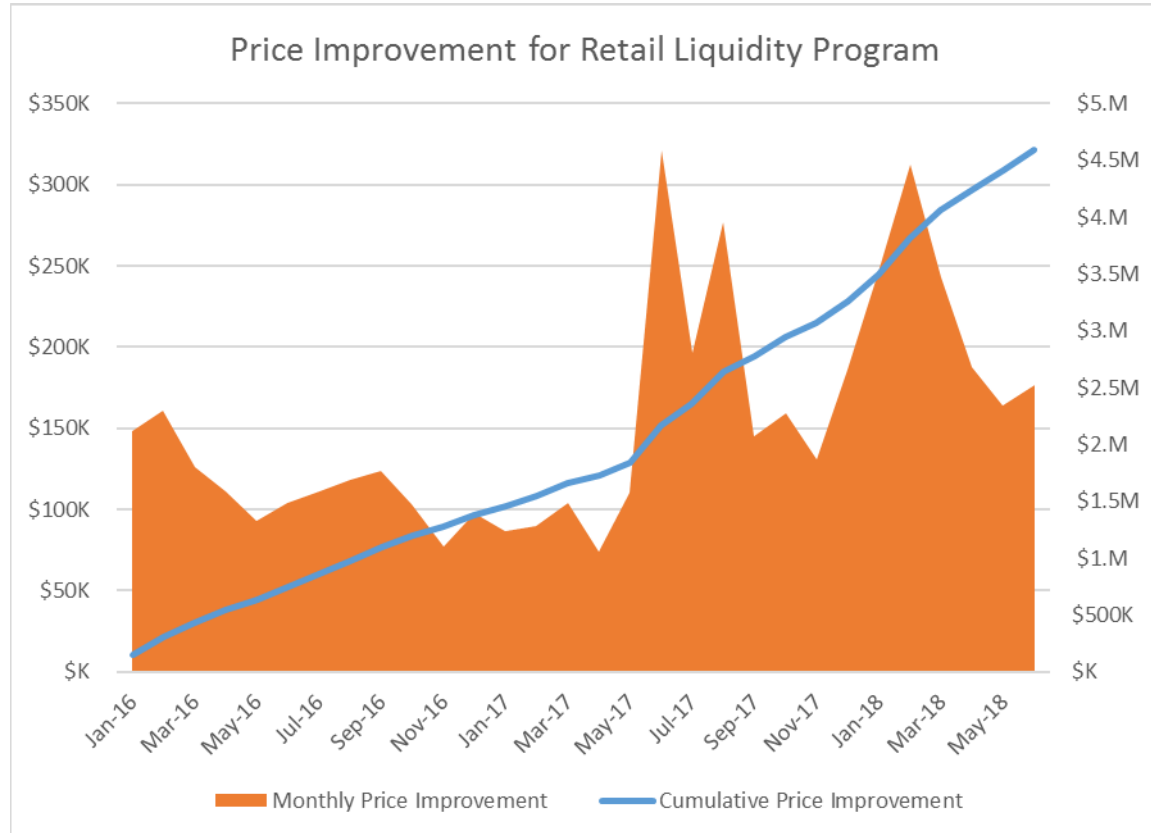
<sup>25</sup> RPI Approval Order, 77 FR at 71655.

<sup>26</sup> Id.

the course of the pilot. The data also demonstrates that the Program had an overall negligible impact on broader market quality outside of the Program. The Exchange has not received any complaints or negative feedback concerning the Program.

## **I. Overall Analysis of the Program**

Brokers route retail orders to a wide range of different trading systems. The Program offers a transparent and well-regulated option, providing meaningful competition and price improvement. As explained above, the purpose of the Program is to attract retail order flow to the Exchange by providing an opportunity for retail investors to receive price improvement. The Exchange believes that the Program has satisfied this goal, having provided a total of \$4.5 million of price improvement, or approximately \$153,000 per month, in the last 2.5 years. Furthermore, while the amount of price improvement provided in the Program varies month to month, the amount of price improvement provided in recent months has generally increased relative to prior months due to additional participation in the Program by market participants with retail order flow. The Exchange believes that this supports permanent approval of the pilot as retail investors continue to reap the benefits afforded by the Program. The amount of monthly and cumulative price improvement provided in the Program is illustrated in Chart 1 below.

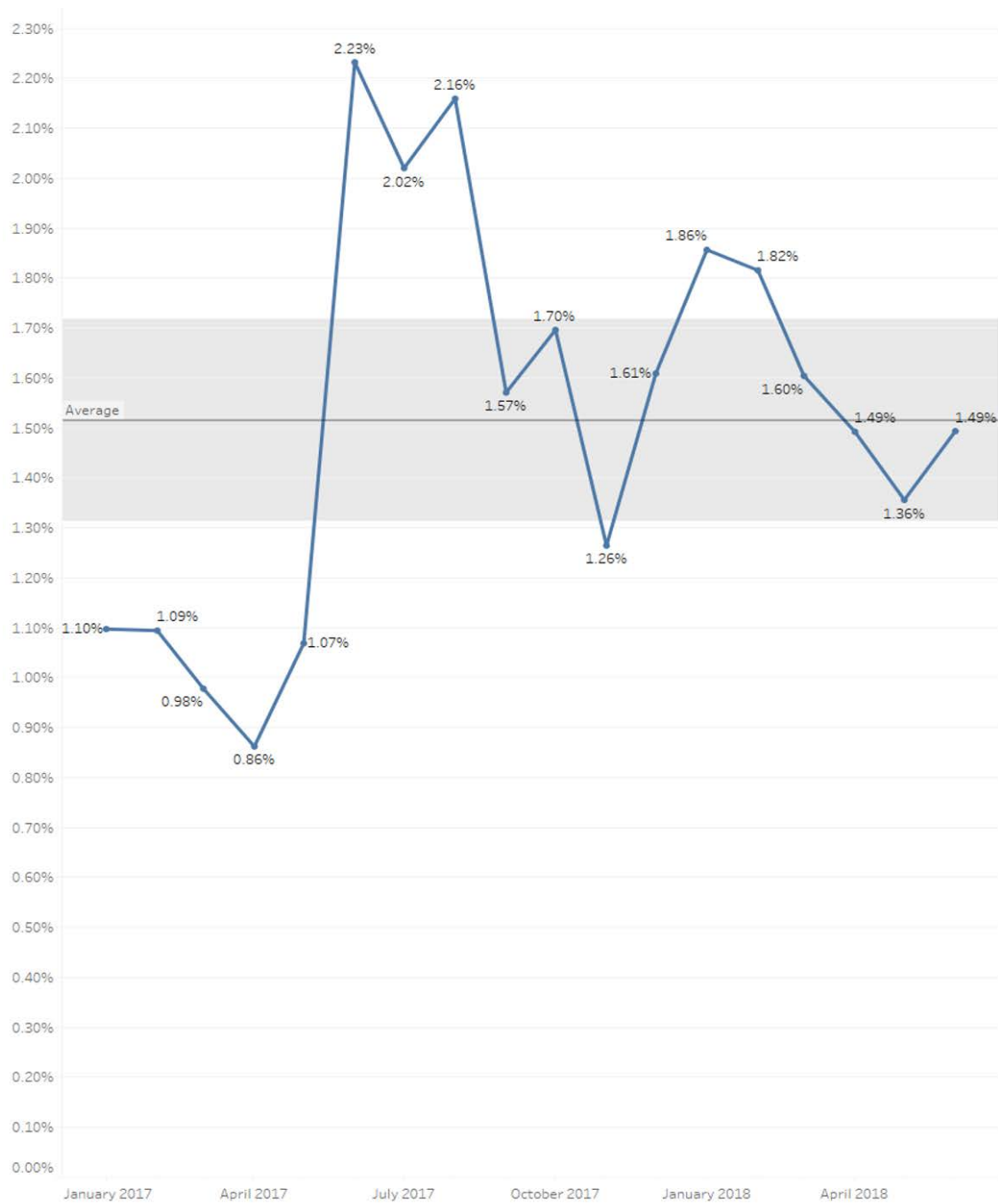
**Chart 1: Price Improvement Summary**

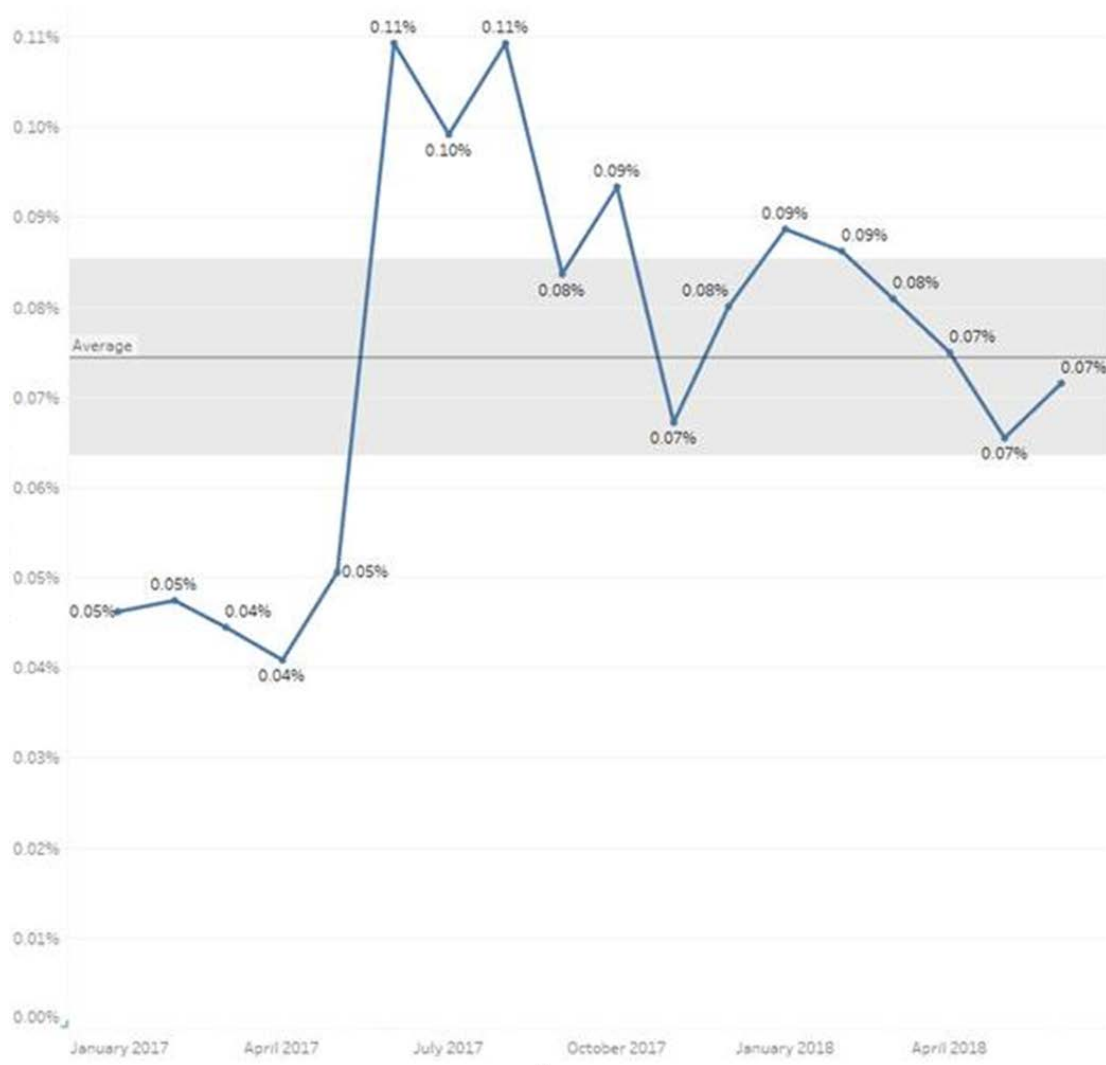
Furthermore, Retail Order volume executed in the Program accounted for between 0.86% and 2.32% of total BYX volume from January 2017 to June 2018, as shown in Chart 2 below, and between 0.05% and 0.11% of total consolidated volume, as shown in Chart 3 below. Despite its size relative to total volume executed on the Exchange or the broader market, the Program has continued to provide considerable price improvement each month to retail investors that participated in the Program. In addition, the Exchange believes that the relatively modest volume executed in the Program relative to total BYX volume and total consolidated volume limits the potential

impact of the Program on broader market quality on the Exchange.<sup>27</sup> The Exchange therefore believes that the Program has demonstrated the effectiveness of a transparent, on-exchange retail order price improvement functionality, notwithstanding that the majority of retail volume is still traded off-exchange.

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<sup>27</sup> The Exchange has also performed an analysis of the impact of the Program on other market quality indicators, which found that the Program did not have a significant impact on market quality in the broader market. See Section III below.

**Chart 2: RPI Volume as a Percentage of Total BYX Volume**

**Chart 3: RPI Volume as a Percentage of Total Consolidated Volume**

Retail Orders are routed by sophisticated brokers using systems that seek the highest fill rates and amounts of price improvement. These brokers have many choices of execution venues for this order flow. When they choose to route to the Program, they have determined that it is the best opportunity for fill rate and price improvement at that time. As shown in Table 1 below, Retail Order average daily volume (“ADV”) executed in the Program averaged between 2 and 7 million shares from January 2016 to June 2018. Increased volatility in February 2018 likely contributed to the increased Retail

Order shares executed in the Program that month. Fill rates for the majority of the period studied ranged from 11% – 19% with fill rates declining below 10% starting in December 2017, likely due to additional participation in the Program that resulted in a significant increase in the Retail Order volume entered on the Exchange. Retail Orders also continue to receive more than the minimum \$0.001 price improvement required of a liquidity providing RPI Order, with the monthly average price improvement provided to Retail Orders ranging from \$0.0011 – \$0.0014 per share, and the monthly effective/quoted spread ratio ranging from 0.77 – 0.90. The Exchange believes that this data supports permanent approval of the Program as this would allow retail investors to continue to execute their orders with price improvement in the Program.

**Table 1: Summary Statistics on the Program**

<b>Date</b>	<b>Retail Shares Executed ADV</b>	<b>Retail Orders Placed ADV</b>	<b>Effective Spread BPS</b>	<b>Quoted Spread BPS</b>	<b>Effective/ Quoted Spread Ratio</b>	<b>Price Improvement</b>	<b>Fill Rate</b>
Jan-16	4,666,052	20,560	19	22	0.89	\$0.0011	16.09%
Feb-16	4,083,670	18,025	19	22	0.87	\$0.0011	16.10%
Mar-16	3,474,997	15,103	21	24	0.90	\$0.0011	17.50%
Apr-16	3,216,923	14,126	18	21	0.88	\$0.0011	19.23%
May-16	2,912,160	12,980	18	21	0.87	\$0.0011	19.73%
Jun-16	3,144,024	13,924	16	18	0.89	\$0.0011	19.65%
Jul-16	4,009,916	17,257	18	20	0.90	\$0.0011	19.97%
Aug-16	3,906,624	17,135	19	21	0.90	\$0.0011	17.66%
Sep-16	4,887,221	20,708	17	19	0.88	\$0.0011	17.28%
Oct-16	3,595,900	15,922	24	27	0.90	\$0.0012	17.19%
Nov-16	2,273,885	8,972	29	33	0.88	\$0.0013	12.71%
Dec-16	3,192,065	12,768	36	41	0.88	\$0.0013	14.82%

Jan-17	3,122,721	16,951	31	36	0.88	\$0.0013	16.09%
Feb-17	3,262,046	21,151	31	35	0.88	\$0.0013	14.71%
Mar-17	3,068,930	20,921	33	38	0.88	\$0.0014	13.85%
Apr-17	2,680,646	18,518	34	38	0.88	\$0.0013	13.97%
May-17	3,407,603	23,437	29	33	0.87	\$0.0013	16.88%
Jun-17	7,896,833	46,398	28	32	0.88	\$0.0013	17.07%
Jul-17	5,966,961	36,717	27	31	0.88	\$0.0012	16.43%
Aug-17	6,467,615	38,608	23	26	0.88	\$0.0013	16.24%
Sep-17	5,237,243	33,314	27	31	0.87	\$0.0013	15.76%
Oct-17	5,702,759	33,578	34	40	0.84	\$0.0012	16.77%
Nov-17	4,427,779	62,352	33	40	0.83	\$0.0012	11.61%
Dec-17	5,131,502	142,810	34	41	0.84	\$0.0012	8.30%
Jan-18	6,359,122	167,730	29	36	0.82	\$0.0013	7.98%
Feb-18	7,230,230	227,980	21	27	0.79	\$0.0012	8.29%
Mar-18	5,967,844	202,050	23	31	0.73	\$0.0011	7.69%
Apr-18	4,976,642	178,009	20	27	0.75	\$0.0011	7.90%
May-18	4,367,743	169,085	23	28	0.83	\$0.0011	7.02%
Jun-18	5,211,044	202,601	23	31	0.77	\$0.0011	7.19%

## II. Analysis of Retail Orders by Order Size

Tables 2, 3, and 4 show the distribution of Retail Orders entered and executed in the Program for the period from January 2017 to June 2018. As shown in Table 2, a majority of all Retail Orders entered to participate in the Program from January 2016 to June 2018 were for a round lot or fewer shares. Specifically, Retail Orders of one round lot or fewer shares accounted for an average of approximately 56% of the total number of Retail Orders entered. More than 73% of Retail Orders entered were for 300 shares or less. Very large orders of more than 7,500 shares accounted for only 1.9% of Retail



Orders submitted to the Program but accounted for a significant portion (approximately 40%) of the shares entered, as shown in Table 3. In addition, despite lower fill rates, large orders account for a reasonable portion (approximately 9%) of the shares executed in the Program, as shown in Table 4. The Program also receives a significantly large number of odd lot and single lot sized shares, which could be representative of retail marketable orders from retail customers. By providing price improvement to these orders, retail customers would continue to benefit from the Program.

**Table 2: Distribution of Retail Orders Entered by Order Size**

<b>Date</b>	<b>≤ 100</b>	<b>101 - 300</b>	<b>301 - 500</b>	<b>501 - 1,000</b>	<b>1,001 - 2,000</b>	<b>2,001 - 4,000</b>	<b>4,001 - 7,500</b>	<b>7,500 - 15,000</b>	<b>&gt; 15000</b>
Jan-17	44.90%	18.45%	8.60%	10.12%	6.84%	4.90%	3.10%	1.93%	1.16%
Feb-17	47.80%	18.04%	8.21%	9.61%	6.27%	4.41%	2.82%	1.75%	1.09%
Mar-17	47.60%	17.76%	8.16%	9.67%	6.36%	4.60%	3.01%	1.78%	1.05%
Apr-17	48.82%	17.30%	7.88%	9.48%	6.19%	4.61%	2.88%	1.82%	1.02%
May-17	52.39%	18.69%	7.13%	8.13%	5.21%	3.81%	2.40%	1.41%	0.83%
Jun-17	55.32%	13.89%	6.67%	8.08%	5.35%	4.47%	3.24%	2.03%	0.95%
Jul-17	53.18%	15.12%	7.32%	8.85%	5.86%	4.12%	2.71%	1.79%	1.05%
Aug-17	49.41%	16.53%	8.00%	9.65%	6.33%	4.49%	2.75%	1.76%	1.08%
Sep-17	49.88%	16.51%	7.94%	9.50%	6.27%	4.49%	2.71%	1.71%	1.00%
Oct-17	49.92%	16.17%	7.73%	9.45%	6.49%	4.67%	2.76%	1.79%	1.02%
Nov-17	61.01%	17.66%	5.65%	6.33%	3.86%	2.54%	1.39%	0.98%	0.59%
Dec-17	61.48%	18.49%	6.31%	6.65%	3.40%	1.97%	0.93%	0.49%	0.28%
Jan-18	61.20%	17.06%	6.54%	7.14%	3.84%	2.25%	1.06%	0.58%	0.33%
Feb-18	66.63%	15.79%	5.61%	5.80%	2.98%	1.70%	0.80%	0.43%	0.25%
Mar-18	66.11%	15.39%	5.82%	6.22%	3.25%	1.76%	0.78%	0.41%	0.24%
Apr-18	67.41%	15.45%	5.40%	6.06%	3.10%	1.43%	0.59%	0.34%	0.22%
May-18	66.09%	16.12%	5.43%	6.30%	3.41%	1.47%	0.59%	0.35%	0.24%

Jun-18	66.29%	16.17%	5.59%	6.14%	3.20%	1.46%	0.59%	0.35%	0.22%
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**Table 3: Distribution of Shares Entered by Order Size**

Date	≤ 100	101 - 300	301 - 500	501 - 1,000	1,001 - 2,000	2,001 - 4,000	4,001 - 7,500	7,500 - 15,000	> 15000
Jan-17	2.15%	3.45%	3.27%	7.03%	9.15%	12.48%	14.61%	17.00%	30.87%
Feb-17	2.36%	3.64%	3.40%	7.30%	9.16%	12.29%	14.52%	16.80%	30.53%
Mar-17	2.25%	3.55%	3.36%	7.32%	9.21%	12.68%	15.38%	16.92%	29.33%
Apr-17	2.36%	3.54%	3.32%	7.32%	9.17%	13.00%	14.92%	17.45%	28.91%
May-17	3.44%	4.59%	3.60%	7.51%	9.25%	12.92%	15.02%	16.32%	27.35%
Jun-17	1.89%	2.89%	2.92%	6.64%	8.44%	13.27%	17.56%	20.05%	26.34%
Jul-17	1.98%	3.18%	3.22%	7.24%	9.17%	12.23%	14.73%	18.29%	29.96%
Aug-17	1.92%	3.36%	3.39%	7.59%	9.57%	12.76%	14.33%	17.21%	29.87%
Sep-17	2.15%	3.49%	3.43%	7.55%	9.70%	13.15%	14.55%	17.27%	28.70%
Oct-17	1.97%	3.34%	3.30%	7.41%	9.91%	13.48%	14.54%	17.90%	28.16%
Nov-17	6.28%	5.19%	3.86%	7.92%	9.53%	12.10%	12.18%	16.22%	26.72%
Dec-17	9.96%	7.34%	5.96%	11.51%	11.24%	12.70%	11.15%	11.31%	18.83%
Jan-18	8.56%	6.29%	5.64%	11.27%	11.49%	13.17%	11.61%	12.18%	19.79%
Feb-18	11.33%	7.16%	6.01%	11.31%	11.12%	12.42%	10.99%	11.30%	18.37%
Mar-18	11.06%	6.96%	6.10%	12.00%	11.88%	12.69%	10.62%	10.82%	17.88%
Apr-18	12.30%	7.46%	5.95%	12.51%	12.19%	11.17%	8.89%	9.73%	19.80%
May-18	12.14%	7.50%	5.74%	12.40%	12.76%	11.08%	8.53%	9.67%	20.17%
Jun-18	12.39%	7.77%	6.12%	12.60%	12.60%	11.42%	8.76%	9.89%	18.45%

**Table 4: Distribution of Shares Executed by Order Size**

Date	≤ 100	101 - 300	301 - 500	501 - 1,000	1,001 - 2,000	2,001 - 4,000	4,001 - 7,500	7,500 - 15,000	> 15000
Jan-17	11.39%	14.06%	10.40%	18.41%	15.88%	12.34%	8.41%	5.26%	3.86%
Feb-17	13.96%	15.27%	10.48%	17.77%	14.54%	11.44%	7.82%	5.15%	3.60%

Mar-17	14.14%	14.99%	10.15%	17.53%	14.74%	11.80%	8.15%	5.02%	3.48%
Apr-17	14.69%	14.83%	10.01%	17.80%	14.84%	11.55%	7.85%	5.00%	3.42%
May-17	17.86%	18.10%	9.98%	16.46%	13.17%	10.48%	6.94%	4.23%	2.78%
Jun-17	9.74%	11.25%	8.91%	16.71%	14.58%	14.86%	12.03%	7.97%	3.95%
Jul-17	10.37%	12.33%	9.91%	18.84%	16.17%	12.75%	8.96%	6.56%	4.11%
Aug-17	9.39%	12.34%	10.01%	18.97%	16.70%	13.36%	8.77%	6.15%	4.31%
Sep-17	10.60%	12.93%	10.22%	18.87%	16.28%	13.00%	8.56%	5.74%	3.79%
Oct-17	9.40%	12.40%	10.16%	19.36%	17.12%	13.45%	8.58%	5.86%	3.66%
Nov-17	12.42%	13.48%	9.27%	16.56%	15.84%	13.24%	7.98%	6.63%	4.56%
Dec-17	14.98%	15.80%	10.29%	16.77%	14.92%	11.67%	6.98%	5.04%	3.55%
Jan-18	14.27%	14.96%	10.28%	17.53%	15.27%	11.90%	7.12%	5.16%	3.50%
Feb-18	16.74%	15.75%	10.78%	17.05%	14.27%	11.08%	6.48%	4.57%	3.30%
Mar-18	17.27%	15.97%	10.58%	16.87%	13.81%	10.51%	6.66%	4.63%	3.70%
Apr-18	17.12%	15.58%	10.24%	16.30%	13.60%	10.04%	6.71%	5.37%	5.03%
May-18	18.24%	16.29%	10.18%	15.89%	12.80%	9.80%	6.25%	5.25%	5.31%
Jun-18	18.93%	17.28%	10.59%	16.16%	12.96%	9.64%	5.66%	4.95%	3.84%

The Exchange also analyzed fill rates across the different order size buckets and found that while fill rates are higher for smaller orders as expected, large size orders are still able to access liquidity and therefore receive price improvement in the Program. Moreover, overall fill rates indicate that market participants that provide liquidity are responding with quote depth when the contra side order is looking for a fill. While fill rates decreased starting in November 2017, the Exchange believes that this is due to new Retail Order flow being routed to the Program, rather than a decrease in the available liquidity. Monthly volume executed in the Program, as shown in Table 1, has therefore remained constant or increased since November 2017 despite the lower overall fill rates

for those months. The Exchange therefore believes that the Program is an attractive option for market participants looking to fill Retail Orders with price improvement.

**Table 5: Fill Rates**

<b>Date</b>	<b>≤ 100</b>	<b>101 - 300</b>	<b>301 - 500</b>	<b>501 - 1,000</b>	<b>1,001 - 2,000</b>	<b>2,001 - 4,000</b>	<b>4,001 - 7,500</b>	<b>7,500 - 15,000</b>	<b>&gt; 15000</b>
Jan-17	85.19%	65.62%	51.13%	42.16%	27.93%	15.91%	9.26%	4.98%	2.01%
Feb-17	87.21%	61.69%	45.31%	35.83%	23.36%	13.69%	7.92%	4.51%	1.73%
Mar-17	87.04%	58.53%	41.87%	33.20%	22.18%	12.89%	7.34%	4.11%	1.65%
Apr-17	86.90%	58.46%	42.12%	33.97%	22.59%	12.40%	7.35%	4.00%	1.65%
May-17	87.53%	66.54%	46.75%	36.99%	24.03%	13.69%	7.80%	4.38%	1.71%
Jun-17	87.78%	66.50%	52.07%	42.98%	29.48%	19.12%	11.70%	6.78%	2.56%
Jul-17	85.99%	63.63%	50.52%	42.77%	28.96%	17.12%	9.99%	5.89%	2.25%
Aug-17	79.61%	59.74%	48.02%	40.59%	28.33%	17.00%	9.94%	5.81%	2.34%
Sep-17	77.55%	58.32%	46.98%	39.39%	26.44%	15.58%	9.27%	5.24%	2.08%
Oct-17	80.19%	62.29%	51.71%	43.82%	28.97%	16.73%	9.90%	5.49%	2.18%
Nov-17	22.78%	29.93%	27.66%	24.11%	19.16%	12.61%	7.55%	4.71%	1.97%
Dec-17	12.14%	17.37%	13.96%	11.77%	10.72%	7.42%	5.05%	3.60%	1.52%
Jan-18	12.84%	18.31%	14.06%	11.98%	10.24%	6.96%	4.72%	3.26%	1.36%
Feb-18	11.79%	17.56%	14.32%	12.03%	10.24%	7.12%	4.70%	3.23%	1.43%
Mar-18	11.56%	17.00%	12.85%	10.42%	8.60%	6.13%	4.64%	3.17%	1.53%
Apr-18	10.61%	15.91%	13.11%	9.93%	8.50%	6.85%	5.76%	4.21%	1.94%
May-18	10.11%	14.61%	11.93%	8.62%	6.75%	5.95%	4.93%	3.65%	1.77%
Jun-18	10.57%	15.39%	11.98%	8.88%	7.12%	5.84%	4.47%	3.46%	1.44%

### **III. Impact of the Program on Broader Market Quality**

As shown in Charts 2 and 3 above, Retail Order volume executed in the Program is a small percentage of both total volume executed on the Exchange and total consolidated volume. While the Program has better depth available for Retail Orders, it

does not significantly affect the market volume of BYX. The average volume within the 95<sup>th</sup> percentile is between 1.3% and 1.7%. With the Program volume mostly below 2.5% of BYX volume, the Exchange does not believe that it is able to significantly impact BYX market quality. Nevertheless, to test the impact of the Program on broader market quality, the Exchange reviewed the correlation between metrics that are tied to overall market quality with relevant Program metrics over both 2017 and 2018. Based on this analysis, which is provided in Table 6 below, the Exchange does not believe that the Program has had any significant impact on broader market quality.

Specifically, the Exchange's analysis shows that: (1) inside size in the broader market is not correlated with either RPI effective spreads or the percentage of volume executed in the Program, which suggests that market participants are not moving volume from the regular market to the Program as effective spreads narrow or volume executed in the Program increases; (2) effective spreads in the broader market are not correlated with the percentage of volume executed in the Program, which suggests that spreads are not widening as a result of more Retail Order flow being executed in the Program, (3) midpoint volume executed is not correlated with effective spreads in the Program, which suggests that market participants are not moving midpoint liquidity from the regular market to instead receive price improvement in the Program, and (4) displayed volume executed is not correlated with quoted spreads in the Program, which suggest that market participants are not entering non-displayed retail price improving interest in the Program as an alternative to displaying interest on an order book. The Exchange therefore believes that the Program can continue on a permanent basis – and thereby provide increased price

improvement opportunities to retail investors on a transparent well-regulated exchange – without degrading market quality outside of the Program.

**Table 6: BYX Market Quality Correlation Analysis**

	Date	
	2017	2018
<b>Correlation of RPI Effective Spread to Average Inside Size across all Equities Exchanges<sup>28</sup></b>	-0.0145	-0.0096
<b>Correlation of RPI Volume as a Percent of Total Volume to Average Inside Size across all Equities Exchanges</b>	-0.0217	-0.0056
<b>Correlation of RPI Volume as a Percent of Total Volume to Average Effective Spread across all Venues</b>	0.1175	0.0134
<b>Correlation of RPI Effective Spread to Total Midpoint Volume across all Venues</b>	-0.1438	-0.1366
<b>Correlation of RPI Quoted Spread to Total Protected Lit Volume across all Equities Exchanges</b>	-0.1221	-0.0999

#### **IV. Conclusion**

Based on the Exchange's experience in operating the Program, and the data provided here and during the duration of the pilot, the Exchange believes that the Program has been a positive experiment in attracting retail order flow to a public exchange. The data provided by the Exchange describes a valuable service that delivers considerable price improvement in a transparent and well-regulated environment. The Program represents just a fraction of retail orders, most of which are executed off-exchange by a wide range of order handling services that have considerably more market share, and which operate pursuant to different rules and regulatory requirements. The

<sup>28</sup> Inside size is the average bid or ask size when the venue is at the NBB or NBO.

order flow the Program attracted to the Exchange provided tangible price improvement to retail investors through a competitive and transparent pricing process unavailable in non-exchange venues. As such, despite relatively modest volumes, the Exchange believes that the Program satisfied the twin goals of attracting retail order flow to the Exchange and allowing such order flow to receive potential price improvement. Moreover, the Exchange believes that the data collected supports the conclusion that the Program did not have a negative impact on broader market quality. Although the results of the Program highlight the substantial advantages that broker-dealers retain when managing the benefits of retail order flow, the Exchange believes that the level of price improvement provided by the Program and the scant evidence that the Program negatively impacted the marketplace justifies making the Program permanent.

(b) Statutory Basis

The Exchange believes the proposed rule change is consistent with the requirements of Section 6(b) of the Act,<sup>29</sup> in general, and Section 6(b)(5) of the Act,<sup>30</sup> in particular, in that it is designed to remove impediments to and perfect the mechanism of a free and open market and a national market system, to promote just and equitable principles of trade, and, in general, to protect investors and the public interest and not to permit unfair discrimination between customers, issuers, brokers, or dealers.

The Exchange believes that making the pilot permanent is consistent with these principles because the Program is reasonably designed to attract retail order flow to the exchange environment, while helping to ensure that retail investors benefit from the

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<sup>29</sup> 15 U.S.C. § 78f(b).

<sup>30</sup> 15 U.S.C. § 78f(b)(5).

better price that liquidity providers are willing to give their orders. During the pilot period, the Exchange has provided data and analysis to the Commission. The Exchange believes that this data and analysis, as well as the further analysis provided in this filing, show that the Program has provided the intended benefits to the market, and retail investors in particular, and is therefore consistent with the Act.

Additionally, the Exchange believes the proposed rule change is designed to facilitate transactions in securities and to remove impediments to, and perfect the mechanisms of, a free and open market and a national market system because making the Program permanent would allow the Exchange to continue to attract retail order flow to a public exchange and allow such order flow to receive potential price improvement. The data provided by the Exchange to the Commission staff demonstrates that the Program provided tangible price improvement to retail investors through a competitive pricing process unavailable in non-exchange venues, and otherwise had an insignificant impact on the broader market. The Exchange believes that making the Program permanent would encourage the additional utilization of, and interaction with, the Exchange and provide retail customers with an additional venue for price discovery, liquidity, competitive quotes, and price improvement. For the same reasons, the Exchange believes that making the Program permanent would promote just and equitable principles of trade and remove impediments to and perfect the mechanism of a free and open market.

Finally, the Exchange also believes that it is subject to significant competitive forces, as described below in the Exchange's statement regarding the burden on competition. For all of these reasons, the Exchange believes that the proposed rule change is consistent with the Act.



4. Self-Regulatory Organization's Statement on Burden on Competition

The Exchange does not believe that the proposed rule change will result in any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act. The Exchange believes that making the Program permanent would continue to promote competition for retail order flow among execution venues and contribute to the public price discovery process. The Exchange believes that the data supplied to the Commission, and experience gained over the life of the pilot, have demonstrated that the Program creates price improvement opportunities for retail orders that are equal to what would be provided under OTC internalization arrangements, thereby benefiting retail investors and increasing competition between execution venues. The Exchange also believes that making the Program permanent will promote competition between execution venues operating their own retail liquidity programs. Such competition will lead to innovation within the market, thereby increasing the quality of the national market system. Finally, the Exchange notes that it operates in a highly competitive market in which market participants can easily direct their orders to competing venues, including off-exchange venues. In such an environment, the Exchange must continually review, and consider adjusting the services it offers and the requirements it imposes to remain competitive with other U.S. equity exchanges. For the reasons described above, the Exchange believes that the proposed rule change reflects this competitive environment.

5. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received from Members, Participants or Others

The Exchange has neither solicited nor received written comments on the proposed rule change.

6. Extension of Time Period for Commission Action

The Exchange does not consent to an extension of the time period for Commission action.

7. Basis for Summary Effectiveness Pursuant to Section 19(b)(3) or for Accelerated Effectiveness Pursuant to Section 19(b)(2)

Not applicable.

8. Proposed Rule Change Based on Rules of Another Self-Regulatory Organization or of the Commission

Not applicable.

9. Security-Based Swap Submissions Filed Pursuant to Section 3C of the Act

Not applicable.

10. Advanced Notices Filed Pursuant to Section 806(e) of the Payment, Clearing and Settlement Supervision Act

Not applicable.

11. Exhibits

Exhibit 1 – Form of Notice of Proposed Rule Change for Federal Register

Exhibit 5 – Text of Proposed Rule Change

EXHIBIT 1

## SECURITIES AND EXCHANGE COMMISSION

(Release No. 34-\_\_\_\_\_; File No. SR-CboeBYX-2018-014)

Self-Regulatory Organizations; Cboe BYX Exchange, Inc.; Notice of Filing of a Proposed Rule Change to Make Permanent Rule 11.24, Which Sets Forth the Exchange's Pilot Retail Price Improvement Program

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (the "Act"),<sup>1</sup> and Rule 19b-4 thereunder,<sup>2</sup> notice is hereby given that on \_\_\_\_\_, Cboe BYX Exchange, Inc. (the "Exchange" or "BYX") filed with the Securities and Exchange Commission ("Commission") the proposed rule change as described in Items I, II and III below, which Items have been prepared by the Exchange. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

I. Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change

The Exchange filed a proposal to make permanent Rule 11.24, which sets forth the Exchange's pilot Retail Price Improvement Program.

The text of the proposed rule change is available at the Exchange's website at [www.markets.cboe.com](http://www.markets.cboe.com), at the principal office of the Exchange, and at the Commission's Public Reference Room.

II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, the Exchange included statements concerning the purpose of and basis for the proposed rule change and discussed any comments it

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<sup>1</sup> 15 U.S.C. 78s(b)(1).

<sup>2</sup> 17 CFR 240.19b-4.

received on the proposed rule change. The text of these statements may be examined at the places specified in Item IV below. The Exchange has prepared summaries, set forth in Sections A, B, and C below, of the most significant parts of such statements.

(A) Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

1. Purpose

The purpose of the proposed rule change is to amend Rule 11.24 to make permanent the Retail Price Improvement Program (the "Program"), which is currently offered on a pilot basis. The Exchange has operated the pilot for a six year period and believes that it has been successful in its stated goal of providing price improvement opportunities to retail investors. The analysis conducted by the Exchange shows that retail investors have been provided a total of \$4.5 million of price improvement during the 2.5 year period reviewed from January 2016 through June 2018. In addition, the Exchange's analysis shows that the Program has provided these benefits to retail investors without having an adverse impact on the broader market. The proposal provides an analysis of the economic benefits to retail investors and the marketplace flowing from operation of the Program, which the Exchange believes supports making the Program permanent.

Background

In November 2012, the Commission approved the Program on a pilot basis.<sup>3</sup> The Program is designed to attract retail order flow to the Exchange, and allow such order flow to receive potential price improvement. The Program is currently limited to trades

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<sup>3</sup> See Securities Exchange Act Release No. 68303 (November 27, 2012), 77 FR 71652 (December 3, 2012) ("RPI Approval Order") (SR-BYX-2012-019).

occurring at prices equal to or greater than \$1.00 per share.<sup>4</sup> Under the Program, a class of market participant called a Retail Member Organization (“RMO”) is eligible to submit certain retail order flow (“Retail Orders”) to the Exchange. Users<sup>5</sup> are permitted to provide potential price improvement for Retail Orders<sup>6</sup> in the form of non-displayed interest that is better than the national best bid that is a Protected Quotation (“Protected NBB”) or the national best offer that is a Protected Quotation (“Protected NBO”, and together with the Protected NBB, the “Protected NBBO”).<sup>7</sup> The Program was approved by the Commission on a pilot basis running one-year from the date of implementation.<sup>8</sup> The Commission approved the Program on November 27, 2012.<sup>9</sup> The Exchange

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<sup>4</sup> The Exchange will periodically notify the membership regarding the securities included in the Program through an information circular.

<sup>5</sup> A “User” is defined in Rule 1.5(cc) as any member or sponsored participant of the Exchange who is authorized to obtain access to the System.

<sup>6</sup> A “Retail Order” is defined in Rule 11.24(a)(2) as an agency order that originates from a natural person and is submitted to the Exchange by a RMO, provided that no change is made to the terms of the order with respect to price or side of market and the order does not originate from a trading algorithm or any computerized methodology. See Rule 11.24(a)(2).

<sup>7</sup> The term Protected Quotation is defined in BYX Rule 1.5(t) and has the same meaning as is set forth in Regulation NMS Rule 600(b)(58). The terms Protected NBB and Protected NBO are defined in BYX Rule 1.5(s). The Protected NBB is the best-priced protected bid and the Protected NBO is the best-priced protected offer. Generally, the Protected NBB and Protected NBO and the national best bid (“NBB”) and national best offer (“NBO”, together with the NBB, the “NBBO”) will be the same. However, a market center is not required to route to the NBB or NBO if that market center is subject to an exception under Regulation NMS Rule 611(b)(1) or if such NBB or NBO is otherwise not available for an automatic execution. In such case, the Protected NBB or Protected NBO would be the best-priced protected bid or offer to which a market center must route interest pursuant to Regulation NMS Rule 611.

<sup>8</sup> See RPI Approval Order, supra note 3 at 71652.

<sup>9</sup> Id.

implemented the Program on January 11, 2013, and has extended the pilot period five times.<sup>10</sup> The pilot period for the Program is scheduled to expire on July 31, 2018.<sup>11</sup> The Exchange believes that the Program has been successful in its goal of providing price improvement to Retail Orders, and is therefore proposing to amend Rule 11.24 to make this pilot permanent so that retail investors can continue to reap the benefits of the Program.<sup>12</sup>

The SEC approved the Program on a pilot basis, in part, because it concluded, “the Program is reasonably designed to benefit retail investors by providing price improvement to retail order flow.”<sup>13</sup> The Commission also found that “while the Program would treat retail order flow differently from order flow submitted by other market participants, such segmentation would not be inconsistent with Section 6(b)(5) of the Act, which requires that the rules of an exchange are not designed to permit unfair discrimination.”<sup>14</sup> As the SEC acknowledged, the retail order segmentation was designed to create greater retail order flow competition and thereby increase the amount of this flow to transparent and well-regulated exchanges. This would help to ensure that retail

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<sup>10</sup> See Securities Exchange Act Release Nos. 71249 (January 7, 2014), 79 FR 2229 (January 13, 2014) (SR-BYX-2014-001); 74111 (January 22, 2015), 80 FR 4598 (January 28, 2015) (SR-BYX-2015-05); 76965 (January 22, 2016), 81 FR 4682 (January 27, 2016) (SR-BYX-2016-01); 78180 (June 28, 2016), 81 FR 43306 (July 1, 2016) (SR-BYX-2016-15); 81368 (August 10, 2017), 82 FR 38960 (August 16, 2017) (SR-BYX-2017-18).

<sup>11</sup> Concurrently with the filing of this proposed rule change, the Exchange is filing to extend the current pilot period until the earlier of approval of the filing to make this rule permanent (i.e., this proposed rule change) or December 31, 2018.

<sup>12</sup> The Program will continue to only apply to trades occurring at prices equal to or greater than \$1.00 per share.

<sup>13</sup> See RPI Approval Order, supra note 3 at 71655.

<sup>14</sup> Id.

investors benefit from competitive price improvement that exchange-based liquidity providers provide. As discussed below, the Exchange believes that the Program data supports the conclusion that it provides valuable price to retail investors that they may not otherwise have received, and that it is therefore appropriate to make the Program permanent.

### Definitions

The Exchange adopted the following definitions under Rule 11.24(a):

First, the term “Retail Member Organization” is defined as a Member (or a division thereof) that has been approved by the Exchange to submit Retail Orders.

Second, the term “Retail Order” is defined as an agency order or riskless principal that meets the criteria of FINRA Rule 5320.03<sup>15</sup> that originates from a natural person and is submitted to the Exchange by a Retail Member Organization, provided that no change is made to the terms of the order with respect to price or side of market and the order does not originate from a trading algorithm or any other computerized methodology. A Retail Order is an Immediate or Cancel (“IOC”) Order and shall operate in accordance with Rule 11.24(f). A Retail Order may be an odd lot, round lot, or mixed lot.

Finally, the term “Retail Price Improvement Order” or “RPI Order” consists of non-displayed interest on the Exchange that is priced better than the Protected NBB or

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<sup>15</sup> FINRA Rule 5320.03 clarifies that an RMO may enter Retail Orders on a riskless principal basis, provided that (i) the entry of such riskless principal orders meet the requirements of FINRA Rule 5320.03, including that the RMO maintains supervisory systems to reconstruct, in a time-sequenced manner, all Retail Orders that are entered on a riskless principal basis; and (ii) the RMO submits a report, contemporaneously with the execution of the facilitated order, that identifies the trade as riskless principal.

Protected NBO by at least \$0.001 and that is identified as such (“RPI interest”).<sup>16</sup> The System<sup>17</sup> will monitor whether RPI buy or sell interest, adjusted by any offset and subject to the ceiling or floor price, is eligible to interact with incoming Retail Orders. An RPI Order remains non-displayed in its entirety (the buy or sell interest, the offset, and the ceiling or floor). An RPI Order may also be entered in a sub-penny increment with an explicit limit price. Any User is permitted, but not required, to submit RPI Orders. An RPI Order may be an odd lot, round lot or mixed lot.

The price of an RPI Order is determined by a User’s entry of the following into the Exchange: (1) RPI buy or sell interest; (2) an offset, if any; and (3) a ceiling or floor price. RPI Orders submitted with an offset are similar to other peg orders available to Users in that the order is tied or “pegged” to a certain price, and would have its price automatically set and adjusted upon changes in the Protected NBBO, both upon entry and any time thereafter. RPI buy or sell interest is typically entered to track the Protected NBBO, that is, RPI Orders are typically submitted with an offset. The offset is a predetermined amount by which the User is willing to improve the Protected NBBO, subject to a ceiling or floor price. The ceiling or floor price is the amount above or below

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<sup>16</sup> Exchange systems prevent Retail Orders from interacting with RPI Orders if the RPI Order is not priced at least \$0.001 better than the Protected NBBO. The Exchange notes, however, that price improvement of \$0.001 would be a minimum requirement and Users could enter RPI Orders that better the Protected NBBO by more than \$0.001. Exchange systems will accept RPI Orders without a minimum price improvement value; however, such interest will execute at its floor or ceiling price only if such floor or ceiling price is better than the Protected NBBO by \$0.001 or more.

<sup>17</sup> The “System” is defined in BYX Rule 1.5(aa) 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.”



which the User does not wish to trade. RPI Orders in their entirety (the buy or sell interest, the offset, and the ceiling or floor) will remain non-displayed. The Exchange also allows Users to enter RPI Orders that establish the exact limit price, which is similar to a non-displayed limit order currently accepted by the Exchange except the Exchange accepts sub-penny limit prices on RPI Orders in increments of \$0.001. The Exchange monitors whether RPI buy or sell interest, adjusted by any offset and subject to the ceiling or floor price, is eligible to interact with incoming Retail Orders.

Users and RMOs may enter odd lots, round lots or mixed lots as RPI Orders and as Retail Orders respectively. As discussed below, RPI Orders are ranked and allocated according to price and time of entry into the System consistent with Rule 11.12 and therefore without regard to whether the size entered is an odd lot, round lot or mixed lot amount. Similarly, Retail Orders interact with RPI Orders according to the Priority and Allocation rules of the Program and without regard to whether they are odd lots, round lots or mixed lots. Finally, Retail Orders are designated as Type 1 or Type 2 without regard to the size of the order.

RPI Orders interact with Retail Orders as follows. Assume a User enters RPI sell interest with an offset of \$0.001 and a floor of \$10.10 while the Protected NBO is \$10.11. The RPI Order could interact with an incoming buy Retail Order at \$10.109. If, however, the Protected NBO was \$10.10, the RPI Order could not interact with the Retail Order because the price required to deliver the minimum \$0.001 price improvement (\$10.099) would violate the User's floor of \$10.10. If a User otherwise enters an offset greater than the minimum required price improvement and the offset would produce a price that would violate the User's floor, the offset would be applied only to the extent that it

respects the User's floor. By way of illustration, assume RPI buy interest is entered with an offset of \$0.005 and a ceiling of \$10.112 while the Protected NBB is at \$10.11. The RPI Order could interact with an incoming sell Retail Order at \$10.112, because it would produce the required price improvement without violating the User's ceiling, but it could not interact above the \$10.112 ceiling. Finally, if a User enters an RPI Order without an offset (i.e., an explicitly priced limit order), the RPI Order will interact with Retail Orders at the level of the User's limit price as long as the minimum required price improvement is produced. Accordingly, if RPI sell interest is entered with a limit price of \$10.098 and no offset while the Protected NBO is \$10.11, the RPI Order could interact with the Retail Order at \$10.098, producing \$0.012 of price improvement. The System will not cancel RPI interest when it is not eligible to interact with incoming Retail Orders; such RPI interest will remain in the System and may become eligible again to interact with Retail Orders depending on the Protected NBBO.

#### RMO Qualifications and Application Process

Under Rule 11.24(b), any Member may qualify as an RMO if it conducts a retail business or routes retail orders on behalf of another broker-dealer. For purposes of Rule 11.24(b), conducting a retail business shall include carrying retail customer accounts on a fully disclosed basis. Any Member that wishes to obtain RMO status is required to submit: (1) an application form; (2) supporting documentation sufficient to demonstrate the retail nature and characteristics of the applicant's order flow; and (3) an attestation, in a form prescribed by the Exchange, that substantially all orders submitted as Retail

Orders will qualify as such under Rule 11.24.<sup>18</sup> The Exchange shall notify the applicant of its decision in writing.

An RMO is required to have written policies and procedures reasonably designed to assure that it will only designate orders as Retail Orders if all requirements of a Retail Order are met. Such written policies and procedures must require the Member to (i) exercise due diligence before entering a Retail Order to assure that entry as a Retail Order is in compliance with the requirements of this rule, and (ii) monitor whether orders entered as Retail Orders meet the applicable requirements. If the RMO represents Retail Orders from another broker-dealer customer, the RMO's supervisory procedures must be reasonably designed to assure that the orders it receives from such broker-dealer customer that it designates as Retail Orders meet the definition of a Retail Order. The RMO must (i) obtain an annual written representation, in a form acceptable to the Exchange, from each broker-dealer customer that sends it orders to be designated as Retail Orders that entry of such orders as Retail Orders will be in compliance with the requirements of this rule, and (ii) monitor whether its broker-dealer customers' Retail Order flow continues to meet the applicable requirements.<sup>19</sup>

If the Exchange disapproves the application, the Exchange provides a written notice to the Member. The disapproved applicant could appeal the disapproval by the

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<sup>18</sup> For example, a prospective RMO could be required to provide sample marketing literature, website screenshots, other publicly disclosed materials describing the retail nature of their order flow, and such other documentation and information as the Exchange may require to obtain reasonable assurance that the applicant's order flow would meet the requirements of the Retail Order definition.

<sup>19</sup> The Exchange or another self-regulatory organization on behalf of the Exchange will review an RMO's compliance with these requirements through an exam-based review of the RMO's internal controls.

Exchange as provided in Rule 11.24(d), and/or reapply for RMO status 90 days after the disapproval notice is issued by the Exchange. An RMO also could voluntarily withdraw from such status at any time by giving written notice to the Exchange.

#### Failure of RMO to Abide by Retail Order Requirements

Rule 11.24(c) addresses an RMO's failure to abide by Retail Order requirements. If an RMO designates orders submitted to the Exchange as Retail Orders and the Exchange determines, in its sole discretion, that those orders fail to meet any of the requirements of Retail Orders, the Exchange may disqualify a Member from its status as an RMO. When disqualification determinations are made, the Exchange provides a written disqualification notice to the Member. A disqualified RMO may appeal the disqualification as provided in Rule 11.24(d) and/or reapply for RMO status 90 days after the disqualification notice is issued by the Exchange.

#### Appeal of Disapproval or Disqualification

Rule 11.24(d) provides appeal rights to Members. If a Member disputes the Exchange's decision to disapprove it as an RMO under Rule 11.24(b) or disqualify it under Rule 11.24(c), such Member ("appellant") may request, within five business days after notice of the decision is issued by the Exchange, that the Retail Price Improvement Program Panel ("RPI Panel") review the decision to determine if it was correct.

The RPI Panel consists of the Exchange's Chief Regulatory Officer ("CRO"), or a designee of the CRO, and two officers of the Exchange designated by the Chief Operating Officer ("COO"). The RPI Panel reviews the facts and render a decision within the time frame prescribed by the Exchange. The RPI Panel may overturn or modify an

action taken by the Exchange and all determinations by the RPI Panel constitute final action by the Exchange on the matter at issue.

#### Retail Liquidity Identifier

Under Rule 11.24(e), the Exchange disseminates an identifier when RPI interest priced at least \$0.001 better than the Exchange's Protected Bid or Protected Offer for a particular security is available in the System ("Retail Liquidity Identifier"). The Retail Liquidity Identifier is disseminated through consolidated data streams (i.e., pursuant to the Consolidated Tape Association Plan/Consolidated Quotation Plan, or CTA/CQ, for Tape A and Tape B securities, and the Nasdaq UTP Plan for Tape C securities) as well as through proprietary Exchange data feeds.<sup>20</sup> The Retail Liquidity Identifier reflects the symbol and the side (buy or sell) of the RPI interest, but does not include the price or size of the RPI interest. In particular, CQ and UTP quoting outputs include a field for codes related to the Retail Liquidity Identifier. The codes indicate RPI interest that is priced better than the Exchange's Protected Bid or Protected Offer by at least the minimum level of price improvement as required by the Program.

#### Retail Order Designations

Under Rule 11.24(f), an RMO can designate how a Retail Order would interact with available contra-side interest as follows:

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<sup>20</sup> The Exchange notes that the Retail Liquidity Identifier for Tape A and Tape B securities are disseminated pursuant to the CTA/CQ Plan. The identifier is also available through the consolidated public market data stream for Tape C securities. The processor for the Nasdaq UTP quotation stream disseminates the Retail Liquidity Identifier and analogous identifiers from other market centers that operate programs similar to the RPI Program.

A Type 1-designated Retail Order will interact with available contra-side RPI Orders and other price improving contra-side interest but will not interact with other available contra-side interest in the System that is not offering price improvement or route to other markets. The portion of a Type 1-designated Retail Order that does not execute against contra-side RPI Orders or other price improving liquidity will be immediately and automatically cancelled.

A Type 2-designated Retail Order will interact first with available contra-side RPI Orders and other price improving liquidity and then any remaining portion of the Retail Order will be executed as an Immediate-or-Cancel (“IOC”) Order pursuant to Rule 11.9(b)(1). A Type 2-designated Retail Order can either be submitted as a BYX Only Order<sup>21</sup> or as an order eligible for routing pursuant to Rule 11.13(a)(2).

#### Priority and Order Allocation

Under Rule 11.24(g), competing RPI Orders in the same security are ranked and allocated according to price then time of entry into the System. Executions occur in price/time priority in accordance with Rule 11.12. Any remaining unexecuted RPI interest remains available to interact with other incoming Retail Orders if such interest is at an eligible price. Any remaining unexecuted portion of the Retail Order will cancel or execute in accordance with Rule 11.24(f). The following example illustrates this method:

- Protected NBBO for security ABC is \$10.00 — \$10.05
- User 1 enters an RPI Order to buy ABC at \$10.015 for 500

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<sup>21</sup> A BYX Only Order is defined in BYX Rule 11.9(c)(4) and includes orders that are not eligible for routing to other trading centers.

- User 2 then enters an RPI Order to buy ABC at \$10.02 for 500
- User 3 then enters an RPI Order to buy ABC at \$10.035 for 500

An incoming Retail Order to sell ABC for 1,000 executes first against User 3's bid for 500 at \$10.035, because it is the best priced bid, then against User 2's bid for 500 at \$10.02, because it is the next best priced bid. User 1 is not filled because the entire size of the Retail Order to sell 1,000 is depleted. The Retail Order executes against RPI Orders in price/time priority.

However, assume the same facts above, except that User 2's RPI Order to buy ABC at \$10.02 is for 100. The incoming Retail Order to sell 1,000 executes first against User 3's bid for 500 at \$10.035, because it is the best priced bid, then against User 2's bid for 100 at \$10.02, because it is the next best priced bid. User 1 then receives an execution for 400 of its bid for 500 at \$10.015, at which point the entire size of the Retail Order to sell 1,000 is depleted.

As a final example, assume the same facts as above, except that User 3's order was not an RPI Order to buy ABC at \$10.035, but rather, a non-displayed order to buy ABC at \$10.03. The result would be similar to the result immediately above, in that the incoming Retail Order to sell 1,000 executes first against User 3's bid for 500 at \$10.03, because it is the best priced bid, then against User 2's bid for 100 at \$10.02, because it is the next best priced bid. User 1 then receives an execution for 400 of its bid for 500 at \$10.015, at which point the entire size of the Retail Order to sell 1,000 is depleted.

#### Eligible Securities

All Regulation NMS securities traded on the Exchange are eligible for inclusion in the RPI Program. The Exchange limits the Program to trades occurring at prices equal

to or greater than \$1.00 per share. Toward that end, Exchange trade validation systems prevent the interaction of RPI buy or sell interest (adjusted by any offset) and Retail Orders at a price below \$1.00 per share.<sup>22</sup> For example, if there is RPI buy interest tracking the Protected NBB at \$0.99 with an offset of \$0.001 and a ceiling of \$1.02, Exchange trade validation systems would prevent the execution of the RPI Order at \$0.991 with a sell Retail Order with a limit of \$0.99. However, if the Retail Order was Type 2 as defined the Program,<sup>23</sup> it would be able to interact at \$0.99 with liquidity outside the Program in the Exchange's order book. In addition to facilitating an orderly<sup>24</sup> and operationally intuitive program, the Exchange believes that limiting the Program to trades equal to or greater than \$1.00 per share enabled it better to focus its efforts to monitor price competition and to assess any indications that data disseminated under the Program is potentially disadvantaging retail orders. As part of that review, the Exchange produced data throughout the pilot, which included statistics about participation, the frequency and level of price improvement provided by the Program, and any effects on the broader market structure.

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<sup>22</sup> As discussed above, the price of an RPI is determined by a User's entry of buy or sell interest, an offset (if any) and a ceiling or floor price. RPI sell or buy interest typically tracks the Protected NBBO.

<sup>23</sup> Type 2 Retail Orders are treated as IOC orders that execute against displayed and non-displayed liquidity in the Exchange's order book where there is no available liquidity in the Program. Type 2 Retail Orders can either be designated as eligible for routing or as BYX Only Orders, and thus non-routable, as described above.

<sup>24</sup> Given the limitation, the Program would have no impact on the minimum pricing increment for orders priced less than \$1.00 and therefore no effect on the potential of markets executing those orders to lock or cross. In addition, the non-displayed nature of the liquidity in the Program simply has no potential to disrupt displayed, protected quotes. In any event, the Program would do nothing to change the obligation of exchanges to avoid and reconcile locked and crossed markets under NMS Rule 610(d).



### Rationale for Making the Program Pilot Permanent

The Exchange established the Program in an attempt to attract retail order flow to the Exchange by providing an opportunity for price improvement to such order flow. The Exchange believes that the Program promotes transparent competition for retail order flow by allowing Exchange members to submit RPI Orders to interact with Retail Orders. Such competition promotes efficiency by facilitating the price discovery process and generating additional investor interest in trading securities, thereby promoting capital formation and retail investment opportunities. The Program will continue to be limited to trades occurring at prices equal to or greater than \$1.00 per share.

In accordance with its filing establishing the pilot, the Exchange did “produce data throughout the pilot, which will include statistics about participation, the frequency and level of price improvement provided by the Program, and any effects on the broader market structure.”<sup>25</sup> The Exchange has fulfilled this obligation through the reports and assessments it has submitted to the Commission since the implementation of the pilot Program. The Exchange believes that the data provided to the Commission to date, as well as the data being provided in this proposed rule change, support the continued operation of the Program on a permanent basis.

The SEC stated in the RPI Approval Order that the Program could promote competition for retail order flow among execution venues, and that this could benefit retail investors by creating additional well-regulated and transparent price improvement opportunities for marketable retail order flow, most of which is currently executed in the

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<sup>25</sup> RPI Approval Order, 77 FR at 71655.

Over-the-Counter (“OTC”) markets without ever reaching a public exchange.<sup>26</sup> The Exchange believes that it has achieved its goal of attracting retail order flow to the Exchange. As the Exchange’s analysis of the Program data below demonstrates, there has been consistent retail investor interest in the Program, which has provided tangible price improvement to those retail investors through a competitive pricing process over the course of the pilot. The data also demonstrates that the Program had an overall negligible impact on broader market quality outside of the Program. The Exchange has not received any complaints or negative feedback concerning the Program.

#### **I. Overall Analysis of the Program**

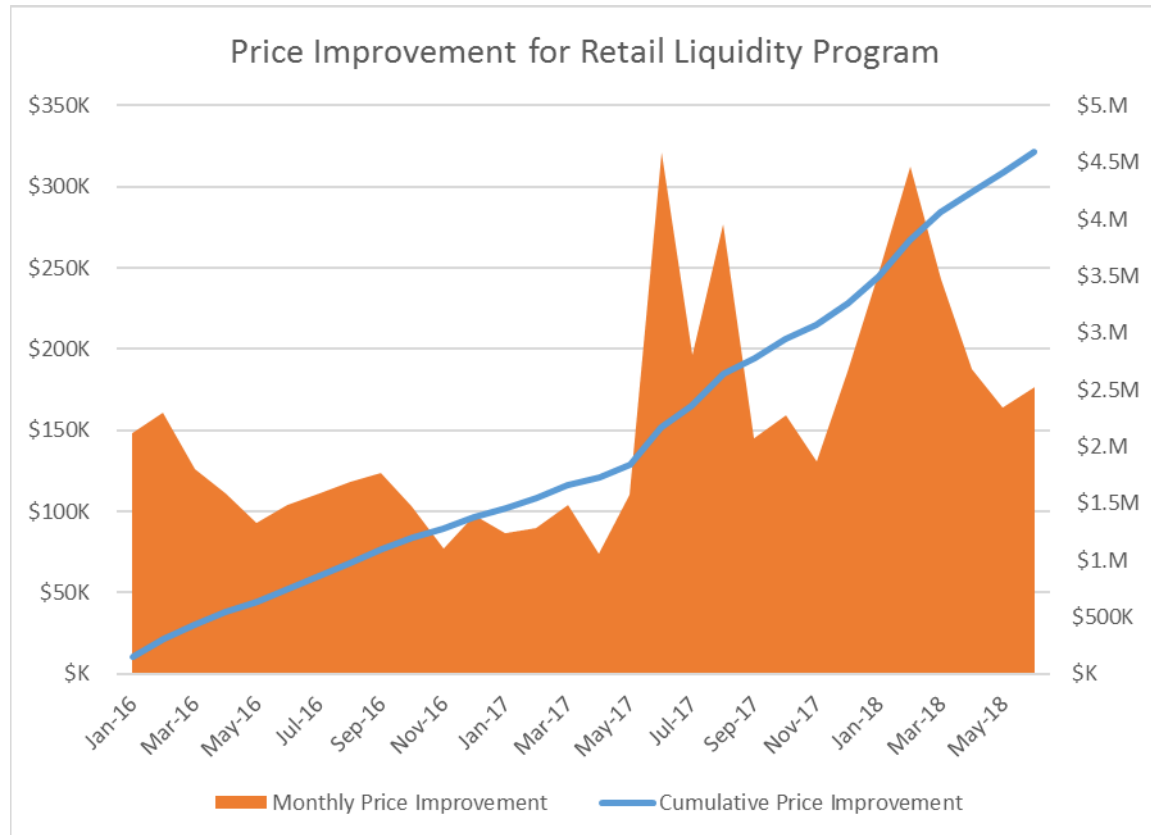
Brokers route retail orders to a wide range of different trading systems. The Program offers a transparent and well-regulated option, providing meaningful competition and price improvement. As explained above, the purpose of the Program is to attract retail order flow to the Exchange by providing an opportunity for retail investors to receive price improvement. The Exchange believes that the Program has satisfied this goal, having provided a total of \$4.5 million of price improvement, or approximately \$153,000 per month, in the last 2.5 years. Furthermore, while the amount of price improvement provided in the Program varies month to month, the amount of price improvement provided in recent months has generally increased relative to prior months due to additional participation in the Program by market participants with retail order flow. The Exchange believes that this supports permanent approval of the pilot as retail investors continue to reap the benefits afforded by the Program. The amount of

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<sup>26</sup> Id.

monthly and cumulative price improvement provided in the Program is illustrated in Chart 1 below.

**Chart 1: Price Improvement Summary**



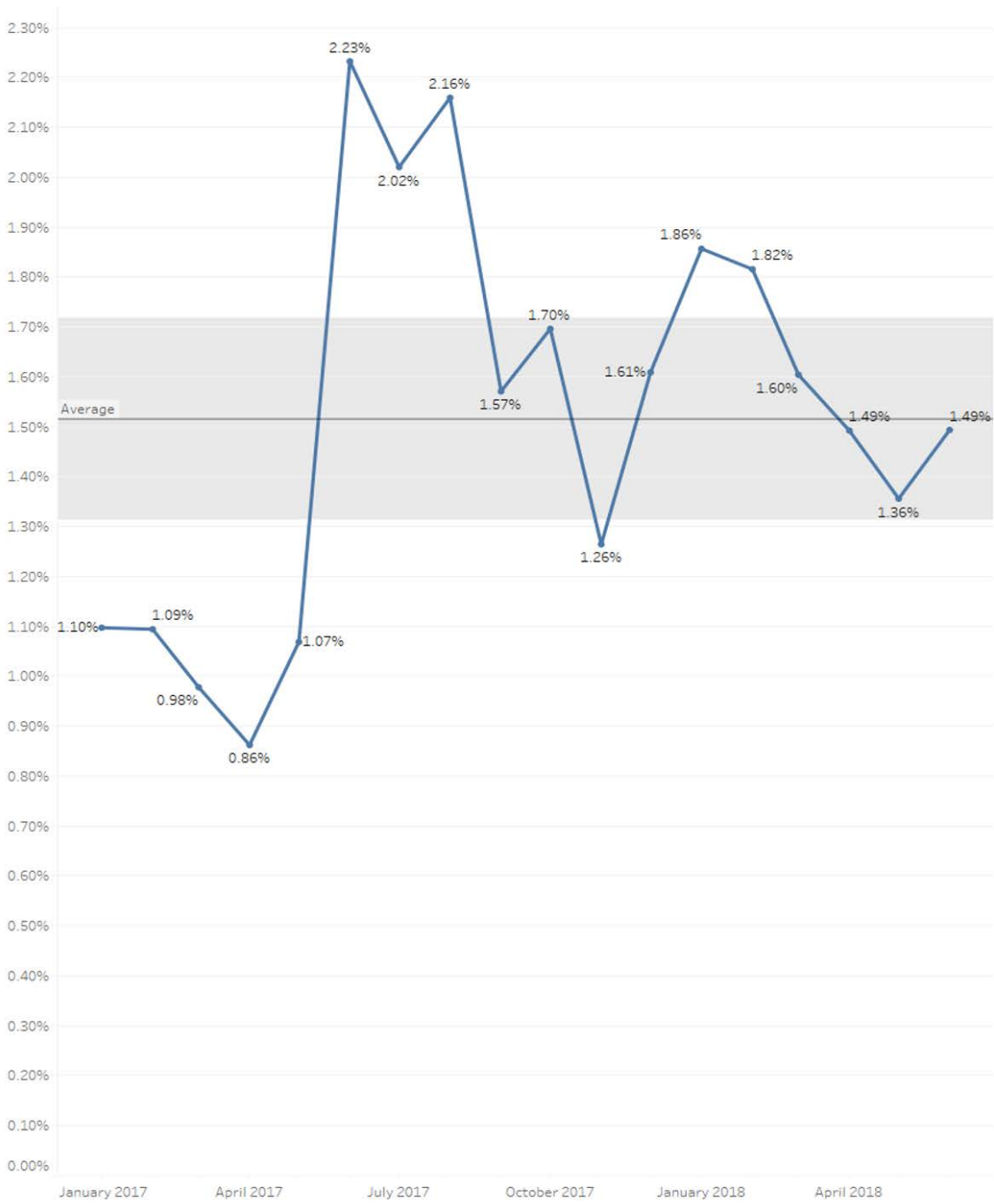
Furthermore, Retail Order volume executed in the Program accounted for between 0.86% and 2.32% of total BYX volume from January 2017 to June 2018, as shown in Chart 2 below, and between 0.05% and 0.11% of total consolidated volume, as shown in Chart 3 below. Despite its size relative to total volume executed on the Exchange or the broader market, the Program has continued to provide considerable price improvement each month to retail investors that participated in the Program. In addition, the Exchange believes that the relatively modest volume executed in the Program relative to total BYX volume and total consolidated volume limits the potential

impact of the Program on broader market quality on the Exchange.<sup>27</sup> The Exchange therefore believes that the Program has demonstrated the effectiveness of a transparent, on-exchange retail order price improvement functionality, notwithstanding that the majority of retail volume is still traded off-exchange.

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<sup>27</sup> The Exchange has also performed an analysis of the impact of the Program on other market quality indicators, which found that the Program did not have a significant impact on market quality in the broader market. See Section III below.

Chart 2: RPI Volume as a Percentage of Total BYX Volume



**Chart 3: RPI Volume as a Percentage of Total Consolidated Volume**

Retail Orders are routed by sophisticated brokers using systems that seek the highest fill rates and amounts of price improvement. These brokers have many choices of execution venues for this order flow. When they choose to route to the Program, they have determined that it is the best opportunity for fill rate and price improvement at that time. As shown in Table 1 below, Retail Order average daily volume (“ADV”) executed in the Program averaged between 2 and 7 million shares from January 2016 to June 2018. Increased volatility in February 2018 likely contributed to the increased Retail

Order shares executed in the Program that month. Fill rates for the majority of the period studied ranged from 11% – 19% with fill rates declining below 10% starting in December 2017, likely due to additional participation in the Program that resulted in a significant increase in the Retail Order volume entered on the Exchange. Retail Orders also continue to receive more than the minimum \$0.001 price improvement required of a liquidity providing RPI Order, with the monthly average price improvement provided to Retail Orders ranging from \$0.0011 – \$0.0014 per share, and the monthly effective/quoted spread ratio ranging from 0.77 – 0.90. The Exchange believes that this data supports permanent approval of the Program as this would allow retail investors to continue to execute their orders with price improvement in the Program.

**Table 1: Summary Statistics on the Program**

<b>Date</b>	<b>Retail Shares Executed ADV</b>	<b>Retail Orders Placed ADV</b>	<b>Effective Spread BPS</b>	<b>Quoted Spread BPS</b>	<b>Effective/ Quoted Spread Ratio</b>	<b>Price Improvement</b>	<b>Fill Rate</b>
Jan-16	4,666,052	20,560	19	22	0.89	\$0.0011	16.09%
Feb-16	4,083,670	18,025	19	22	0.87	\$0.0011	16.10%
Mar-16	3,474,997	15,103	21	24	0.90	\$0.0011	17.50%
Apr-16	3,216,923	14,126	18	21	0.88	\$0.0011	19.23%
May-16	2,912,160	12,980	18	21	0.87	\$0.0011	19.73%
Jun-16	3,144,024	13,924	16	18	0.89	\$0.0011	19.65%
Jul-16	4,009,916	17,257	18	20	0.90	\$0.0011	19.97%
Aug-16	3,906,624	17,135	19	21	0.90	\$0.0011	17.66%
Sep-16	4,887,221	20,708	17	19	0.88	\$0.0011	17.28%
Oct-16	3,595,900	15,922	24	27	0.90	\$0.0012	17.19%
Nov-16	2,273,885	8,972	29	33	0.88	\$0.0013	12.71%

Dec-16	3,192,065	12,768	36	41	0.88	\$0.0013	14.82%
Jan-17	3,122,721	16,951	31	36	0.88	\$0.0013	16.09%
Feb-17	3,262,046	21,151	31	35	0.88	\$0.0013	14.71%
Mar-17	3,068,930	20,921	33	38	0.88	\$0.0014	13.85%
Apr-17	2,680,646	18,518	34	38	0.88	\$0.0013	13.97%
May-17	3,407,603	23,437	29	33	0.87	\$0.0013	16.88%
Jun-17	7,896,833	46,398	28	32	0.88	\$0.0013	17.07%
Jul-17	5,966,961	36,717	27	31	0.88	\$0.0012	16.43%
Aug-17	6,467,615	38,608	23	26	0.88	\$0.0013	16.24%
Sep-17	5,237,243	33,314	27	31	0.87	\$0.0013	15.76%
Oct-17	5,702,759	33,578	34	40	0.84	\$0.0012	16.77%
Nov-17	4,427,779	62,352	33	40	0.83	\$0.0012	11.61%
Dec-17	5,131,502	142,810	34	41	0.84	\$0.0012	8.30%
Jan-18	6,359,122	167,730	29	36	0.82	\$0.0013	7.98%
Feb-18	7,230,230	227,980	21	27	0.79	\$0.0012	8.29%
Mar-18	5,967,844	202,050	23	31	0.73	\$0.0011	7.69%
Apr-18	4,976,642	178,009	20	27	0.75	\$0.0011	7.90%
May-18	4,367,743	169,085	23	28	0.83	\$0.0011	7.02%
Jun-18	5,211,044	202,601	23	31	0.77	\$0.0011	7.19%

## II. Analysis of Retail Orders by Order Size

Tables 2, 3, and 4 show the distribution of Retail Orders entered and executed in the Program for the period from January 2017 to June 2018. As shown in Table 2, a majority of all Retail Orders entered to participate in the Program from January 2016 to June 2018 were for a round lot or fewer shares. Specifically, Retail Orders of one round lot or fewer shares accounted for an average of approximately 56% of the total number of Retail Orders entered. More than 73% of Retail Orders entered were for 300 shares or



less. Very large orders of more than 7,500 shares accounted for only 1.9% of Retail Orders submitted to the Program but accounted for a significant portion (approximately 40%) of the shares entered, as shown in Table 3. In addition, despite lower fill rates, large orders account for a reasonable portion (approximately 9%) of the shares executed in the Program, as shown in Table 4. The Program also receives a significantly large number of odd lot and single lot sized shares, which could be representative of retail marketable orders from retail customers. By providing price improvement to these orders, retail customers would continue to benefit from the Program.

**Table 2: Distribution of Retail Orders Entered by Order Size**

<b>Date</b>	<b>≤ 100</b>	<b>101 - 300</b>	<b>301 - 500</b>	<b>501 - 1,000</b>	<b>1,001 - 2,000</b>	<b>2,001 - 4,000</b>	<b>4,001 - 7,500</b>	<b>7,500 - 15,000</b>	<b>&gt; 15000</b>
Jan-17	44.90%	18.45%	8.60%	10.12%	6.84%	4.90%	3.10%	1.93%	1.16%
Feb-17	47.80%	18.04%	8.21%	9.61%	6.27%	4.41%	2.82%	1.75%	1.09%
Mar-17	47.60%	17.76%	8.16%	9.67%	6.36%	4.60%	3.01%	1.78%	1.05%
Apr-17	48.82%	17.30%	7.88%	9.48%	6.19%	4.61%	2.88%	1.82%	1.02%
May-17	52.39%	18.69%	7.13%	8.13%	5.21%	3.81%	2.40%	1.41%	0.83%
Jun-17	55.32%	13.89%	6.67%	8.08%	5.35%	4.47%	3.24%	2.03%	0.95%
Jul-17	53.18%	15.12%	7.32%	8.85%	5.86%	4.12%	2.71%	1.79%	1.05%
Aug-17	49.41%	16.53%	8.00%	9.65%	6.33%	4.49%	2.75%	1.76%	1.08%
Sep-17	49.88%	16.51%	7.94%	9.50%	6.27%	4.49%	2.71%	1.71%	1.00%
Oct-17	49.92%	16.17%	7.73%	9.45%	6.49%	4.67%	2.76%	1.79%	1.02%
Nov-17	61.01%	17.66%	5.65%	6.33%	3.86%	2.54%	1.39%	0.98%	0.59%
Dec-17	61.48%	18.49%	6.31%	6.65%	3.40%	1.97%	0.93%	0.49%	0.28%
Jan-18	61.20%	17.06%	6.54%	7.14%	3.84%	2.25%	1.06%	0.58%	0.33%
Feb-18	66.63%	15.79%	5.61%	5.80%	2.98%	1.70%	0.80%	0.43%	0.25%
Mar-18	66.11%	15.39%	5.82%	6.22%	3.25%	1.76%	0.78%	0.41%	0.24%

Apr-18	67.41%	15.45%	5.40%	6.06%	3.10%	1.43%	0.59%	0.34%	0.22%
May-18	66.09%	16.12%	5.43%	6.30%	3.41%	1.47%	0.59%	0.35%	0.24%
Jun-18	66.29%	16.17%	5.59%	6.14%	3.20%	1.46%	0.59%	0.35%	0.22%

**Table 3: Distribution of Shares Entered by Order Size**

Date	≤ 100	101 - 300	301 - 500	501 - 1,000	1,001 - 2,000	2,001 - 4,000	4,001 - 7,500	7,500 - 15,000	> 15000
Jan-17	2.15%	3.45%	3.27%	7.03%	9.15%	12.48%	14.61%	17.00%	30.87%
Feb-17	2.36%	3.64%	3.40%	7.30%	9.16%	12.29%	14.52%	16.80%	30.53%
Mar-17	2.25%	3.55%	3.36%	7.32%	9.21%	12.68%	15.38%	16.92%	29.33%
Apr-17	2.36%	3.54%	3.32%	7.32%	9.17%	13.00%	14.92%	17.45%	28.91%
May-17	3.44%	4.59%	3.60%	7.51%	9.25%	12.92%	15.02%	16.32%	27.35%
Jun-17	1.89%	2.89%	2.92%	6.64%	8.44%	13.27%	17.56%	20.05%	26.34%
Jul-17	1.98%	3.18%	3.22%	7.24%	9.17%	12.23%	14.73%	18.29%	29.96%
Aug-17	1.92%	3.36%	3.39%	7.59%	9.57%	12.76%	14.33%	17.21%	29.87%
Sep-17	2.15%	3.49%	3.43%	7.55%	9.70%	13.15%	14.55%	17.27%	28.70%
Oct-17	1.97%	3.34%	3.30%	7.41%	9.91%	13.48%	14.54%	17.90%	28.16%
Nov-17	6.28%	5.19%	3.86%	7.92%	9.53%	12.10%	12.18%	16.22%	26.72%
Dec-17	9.96%	7.34%	5.96%	11.51%	11.24%	12.70%	11.15%	11.31%	18.83%
Jan-18	8.56%	6.29%	5.64%	11.27%	11.49%	13.17%	11.61%	12.18%	19.79%
Feb-18	11.33%	7.16%	6.01%	11.31%	11.12%	12.42%	10.99%	11.30%	18.37%
Mar-18	11.06%	6.96%	6.10%	12.00%	11.88%	12.69%	10.62%	10.82%	17.88%
Apr-18	12.30%	7.46%	5.95%	12.51%	12.19%	11.17%	8.89%	9.73%	19.80%
May-18	12.14%	7.50%	5.74%	12.40%	12.76%	11.08%	8.53%	9.67%	20.17%
Jun-18	12.39%	7.77%	6.12%	12.60%	12.60%	11.42%	8.76%	9.89%	18.45%

**Table 4: Distribution of Shares Executed by Order Size**

<b>Date</b>	<b>≤ 100</b>	<b>101 - 300</b>	<b>301 - 500</b>	<b>501 - 1,000</b>	<b>1,001 - 2,000</b>	<b>2,001 - 4,000</b>	<b>4,001 - 7,500</b>	<b>7,500 - 15,000</b>	<b>&gt; 15000</b>
Jan-17	11.39%	14.06%	10.40%	18.41%	15.88%	12.34%	8.41%	5.26%	3.86%
Feb-17	13.96%	15.27%	10.48%	17.77%	14.54%	11.44%	7.82%	5.15%	3.60%
Mar-17	14.14%	14.99%	10.15%	17.53%	14.74%	11.80%	8.15%	5.02%	3.48%
Apr-17	14.69%	14.83%	10.01%	17.80%	14.84%	11.55%	7.85%	5.00%	3.42%
May-17	17.86%	18.10%	9.98%	16.46%	13.17%	10.48%	6.94%	4.23%	2.78%
Jun-17	9.74%	11.25%	8.91%	16.71%	14.58%	14.86%	12.03%	7.97%	3.95%
Jul-17	10.37%	12.33%	9.91%	18.84%	16.17%	12.75%	8.96%	6.56%	4.11%
Aug-17	9.39%	12.34%	10.01%	18.97%	16.70%	13.36%	8.77%	6.15%	4.31%
Sep-17	10.60%	12.93%	10.22%	18.87%	16.28%	13.00%	8.56%	5.74%	3.79%
Oct-17	9.40%	12.40%	10.16%	19.36%	17.12%	13.45%	8.58%	5.86%	3.66%
Nov-17	12.42%	13.48%	9.27%	16.56%	15.84%	13.24%	7.98%	6.63%	4.56%
Dec-17	14.98%	15.80%	10.29%	16.77%	14.92%	11.67%	6.98%	5.04%	3.55%
Jan-18	14.27%	14.96%	10.28%	17.53%	15.27%	11.90%	7.12%	5.16%	3.50%
Feb-18	16.74%	15.75%	10.78%	17.05%	14.27%	11.08%	6.48%	4.57%	3.30%
Mar-18	17.27%	15.97%	10.58%	16.87%	13.81%	10.51%	6.66%	4.63%	3.70%
Apr-18	17.12%	15.58%	10.24%	16.30%	13.60%	10.04%	6.71%	5.37%	5.03%
May-18	18.24%	16.29%	10.18%	15.89%	12.80%	9.80%	6.25%	5.25%	5.31%
Jun-18	18.93%	17.28%	10.59%	16.16%	12.96%	9.64%	5.66%	4.95%	3.84%

The Exchange also analyzed fill rates across the different order size buckets and found that while fill rates are higher for smaller orders as expected, large size orders are still able to access liquidity and therefore receive price improvement in the Program. Moreover, overall fill rates indicate that market participants that provide liquidity are responding with quote depth when the contra side order is looking for a fill. While fill

rates decreased starting in November 2017, the Exchange believes that this is due to new Retail Order flow being routed to the Program, rather than a decrease in the available liquidity. Monthly volume executed in the Program, as shown in Table 1, has therefore remained constant or increased since November 2017 despite the lower overall fill rates for those months. The Exchange therefore believes that the Program is an attractive option for market participants looking to fill Retail Orders with price improvement.

**Table 5: Fill Rates**

<b>Date</b>	<b>≤ 100</b>	<b>101 - 300</b>	<b>301 - 500</b>	<b>501 - 1,000</b>	<b>1,001 - 2,000</b>	<b>2,001 - 4,000</b>	<b>4,001 - 7,500</b>	<b>7,500 - 15,000</b>	<b>&gt; 15000</b>
Jan-17	85.19%	65.62%	51.13%	42.16%	27.93%	15.91%	9.26%	4.98%	2.01%
Feb-17	87.21%	61.69%	45.31%	35.83%	23.36%	13.69%	7.92%	4.51%	1.73%
Mar-17	87.04%	58.53%	41.87%	33.20%	22.18%	12.89%	7.34%	4.11%	1.65%
Apr-17	86.90%	58.46%	42.12%	33.97%	22.59%	12.40%	7.35%	4.00%	1.65%
May-17	87.53%	66.54%	46.75%	36.99%	24.03%	13.69%	7.80%	4.38%	1.71%
Jun-17	87.78%	66.50%	52.07%	42.98%	29.48%	19.12%	11.70%	6.78%	2.56%
Jul-17	85.99%	63.63%	50.52%	42.77%	28.96%	17.12%	9.99%	5.89%	2.25%
Aug-17	79.61%	59.74%	48.02%	40.59%	28.33%	17.00%	9.94%	5.81%	2.34%
Sep-17	77.55%	58.32%	46.98%	39.39%	26.44%	15.58%	9.27%	5.24%	2.08%
Oct-17	80.19%	62.29%	51.71%	43.82%	28.97%	16.73%	9.90%	5.49%	2.18%
Nov-17	22.78%	29.93%	27.66%	24.11%	19.16%	12.61%	7.55%	4.71%	1.97%
Dec-17	12.14%	17.37%	13.96%	11.77%	10.72%	7.42%	5.05%	3.60%	1.52%
Jan-18	12.84%	18.31%	14.06%	11.98%	10.24%	6.96%	4.72%	3.26%	1.36%
Feb-18	11.79%	17.56%	14.32%	12.03%	10.24%	7.12%	4.70%	3.23%	1.43%
Mar-18	11.56%	17.00%	12.85%	10.42%	8.60%	6.13%	4.64%	3.17%	1.53%
Apr-18	10.61%	15.91%	13.11%	9.93%	8.50%	6.85%	5.76%	4.21%	1.94%
May-18	10.11%	14.61%	11.93%	8.62%	6.75%	5.95%	4.93%	3.65%	1.77%

Jun-18	10.57%	15.39%	11.98%	8.88%	7.12%	5.84%	4.47%	3.46%	1.44%
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### III. Impact of the Program on Broader Market Quality

As shown in Charts 2 and 3 above, Retail Order volume executed in the Program is a small percentage of both total volume executed on the Exchange and total consolidated volume. While the Program has better depth available for Retail Orders, it does not significantly affect the market volume of BYX. The average volume within the 95<sup>th</sup> percentile is between 1.3% and 1.7%. With the Program volume mostly below 2.5% of BYX volume, the Exchange does not believe that it is able to significantly impact BYX market quality. Nevertheless, to test the impact of the Program on broader market quality, the Exchange reviewed the correlation between metrics that are tied to overall market quality with relevant Program metrics over both 2017 and 2018. Based on this analysis, which is provided in Table 6 below, the Exchange does not believe that the Program has had any significant impact on broader market quality.

Specifically, the Exchange's analysis shows that: (1) inside size in the broader market is not correlated with either RPI effective spreads or the percentage of volume executed in the Program, which suggests that market participants are not moving volume from the regular market to the Program as effective spreads narrow or volume executed in the Program increases; (2) effective spreads in the broader market are not correlated with the percentage of volume executed in the Program, which suggests that spreads are not widening as a result of more Retail Order flow being executed in the Program, (3) midpoint volume executed is not correlated with effective spreads in the Program, which suggests that market participants are not moving midpoint liquidity from the regular

market to instead receive price improvement in the Program, and (4) displayed volume executed is not correlated with quoted spreads in the Program, which suggest that market participants are not entering non-displayed retail price improving interest in the Program as an alternative to displaying interest on an order book. The Exchange therefore believes that the Program can continue on a permanent basis – and thereby provide increased price improvement opportunities to retail investors on a transparent well-regulated exchange – without degrading market quality outside of the Program.

**Table 6: BYX Market Quality Correlation Analysis**

	Date	
	2017	2018
<b>Correlation of RPI Effective Spread to Average Inside Size across all Equities Exchanges<sup>28</sup></b>	-0.0145	-0.0096
<b>Correlation of RPI Volume as a Percent of Total Volume to Average Inside Size across all Equities Exchanges</b>	-0.0217	-0.0056
<b>Correlation of RPI Volume as a Percent of Total Volume to Average Effective Spread across all Venues</b>	0.1175	0.0134
<b>Correlation of RPI Effective Spread to Total Midpoint Volume across all Venues</b>	-0.1438	-0.1366
<b>Correlation of RPI Quoted Spread to Total Protected Lit Volume across all Equities Exchanges</b>	-0.1221	-0.0999

#### IV. Conclusion

Based on the Exchange's experience in operating the Program, and the data provided here and during the duration of the pilot, the Exchange believes that the Program has been a positive experiment in attracting retail order flow to a public

<sup>28</sup> Inside size is the average bid or ask size when the venue is at the NBB or NBO.

exchange. The data provided by the Exchange describes a valuable service that delivers considerable price improvement in a transparent and well-regulated environment. The Program represents just a fraction of retail orders, most of which are executed off-exchange by a wide range of order handling services that have considerably more market share, and which operate pursuant to different rules and regulatory requirements. The order flow the Program attracted to the Exchange provided tangible price improvement to retail investors through a competitive and transparent pricing process unavailable in non-exchange venues. As such, despite relatively modest volumes, the Exchange believes that the Program satisfied the twin goals of attracting retail order flow to the Exchange and allowing such order flow to receive potential price improvement. Moreover, the Exchange believes that the data collected supports the conclusion that the Program did not have a negative impact on broader market quality. Although the results of the Program highlight the substantial advantages that broker-dealers retain when managing the benefits of retail order flow, the Exchange believes that the level of price improvement provided by the Program and the scant evidence that the Program negatively impacted the marketplace justifies making the Program permanent.

## 2. Statutory Basis

The Exchange believes the proposed rule change is consistent with the requirements of Section 6(b) of the Act,<sup>29</sup> in general, and Section 6(b)(5) of the Act,<sup>30</sup> in particular, in that it is designed to remove impediments to and perfect the mechanism of a free and open market and a national market system, to promote just and equitable

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<sup>29</sup> 15 U.S.C. § 78f(b).

<sup>30</sup> 15 U.S.C. § 78f(b)(5).

principles of trade, and, in general, to protect investors and the public interest and not to permit unfair discrimination between customers, issuers, brokers, or dealers.

The Exchange believes that making the pilot permanent is consistent with these principles because the Program is reasonably designed to attract retail order flow to the exchange environment, while helping to ensure that retail investors benefit from the better price that liquidity providers are willing to give their orders. During the pilot period, the Exchange has provided data and analysis to the Commission. The Exchange believes that this data and analysis, as well as the further analysis provided in this filing, show that the Program has provided the intended benefits to the market, and retail investors in particular, and is therefore consistent with the Act.

Additionally, the Exchange believes the proposed rule change is designed to facilitate transactions in securities and to remove impediments to, and perfect the mechanisms of, a free and open market and a national market system because making the Program permanent would allow the Exchange to continue to attract retail order flow to a public exchange and allow such order flow to receive potential price improvement. The data provided by the Exchange to the Commission staff demonstrates that the Program provided tangible price improvement to retail investors through a competitive pricing process unavailable in non-exchange venues, and otherwise had an insignificant impact on the broader market. The Exchange believes that making the Program permanent would encourage the additional utilization of, and interaction with, the Exchange and provide retail customers with an additional venue for price discovery, liquidity, competitive quotes, and price improvement. For the same reasons, the Exchange believes that making



the Program permanent would promote just and equitable principles of trade and remove impediments to and perfect the mechanism of a free and open market.

Finally, the Exchange also believes that it is subject to significant competitive forces, as described below in the Exchange's statement regarding the burden on competition. For all of these reasons, the Exchange believes that the proposed rule change is consistent with the Act.

(B) Self-Regulatory Organization's Statement on Burden on Competition

The Exchange does not believe that the proposed rule change will result in any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act. The Exchange believes that making the Program permanent would continue to promote competition for retail order flow among execution venues and contribute to the public price discovery process. The Exchange believes that the data supplied to the Commission, and experience gained over the life of the pilot, have demonstrated that the Program creates price improvement opportunities for retail orders that are equal to what would be provided under OTC internalization arrangements, thereby benefiting retail investors and increasing competition between execution venues. The Exchange also believes that making the Program permanent will promote competition between execution venues operating their own retail liquidity programs. Such competition will lead to innovation within the market, thereby increasing the quality of the national market system. Finally, the Exchange notes that it operates in a highly competitive market in which market participants can easily direct their orders to competing venues, including off-exchange venues. In such an environment, the Exchange must continually review, and consider adjusting the services it offers and the requirements it imposes to remain

competitive with other U.S. equity exchanges. For the reasons described above, the Exchange believes that the proposed rule change reflects this competitive environment.

(C) Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received from Members, Participants or Others

The Exchange has neither solicited nor received written comments on the proposed rule change.

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

Within 45 days of the date of publication of this notice in the Federal Register or within such longer period (i) as the Commission may designate up to 90 days of such date if it finds such longer period to be appropriate and publishes its reasons for so finding or (ii) as to which the Exchange consents, the Commission will: (a) by order approve or disapprove such proposed rule change, or (b) institute proceedings to determine whether the proposed rule change should be disapproved.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views and arguments concerning the foregoing, including whether the proposal is consistent with the Act. Comments may be submitted by any of the following methods:

Electronic Comments:

- Use the Commission's Internet comment form (<http://www.sec.gov/rules/sro.shtml>); or
- Send an e-mail to [rule-comments@sec.gov](mailto:rule-comments@sec.gov). Please include File No. SR-CboeBYX-2018-014 on the subject line.

Paper Comments:

- Send paper comments in triplicate to Secretary, Securities and Exchange Commission, 100 F Street, NE, Washington, DC 20549-1090.

All submissions should refer to File No. SR-CboeBYX-2018-014. This file number should be included on the subject line if e-mail is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's Internet website (<http://www.sec.gov/rules/sro.shtml>). Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for website viewing and printing in the Commission's Public Reference Room, 100 F Street, NE, Washington, DC 20549, on official business days between the hours of 10:00 am and 3:00 pm. Copies of such filing will also be available for inspection and copying at the principal office of the Exchange. All comments received will be posted without change. Persons submitting comments are cautioned that we do not redact or edit personal identifying information from comment submissions. You should submit only information that you wish to make available publicly. All submissions should refer to File No. SR-CboeBYX-2018-014 and should be submitted on or before [\_\_\_\_\_21 days from publication in the Federal Register].

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.<sup>31</sup>

Robert W. Errett  
Deputy Secretary

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<sup>31</sup> 17 CFR 200.30-3(a)(12).

EXHIBIT 5

Note: Proposed new language is underlined; proposed deletions are marked by [brackets].

## Rules of Cboe BYX Exchange, Inc.

\* \* \* \* \*

## Rule 11.24. Retail Price Improvement Program

(a) – (g) No change.

(h) [*Rule Pilot Program*. This rule shall operate for a pilot period set to expire on July 31, 2018. During the pilot period, t]The Program will be limited to trades occurring at prices equal to or greater than \$1.00 per share. The Exchange will periodically notify the membership regarding the securities included in the Program through an information circular.

(i) No change.

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