

Nothing But The Facts

Asymmetric Speed Bumps in U.S. Equity Markets

A recent proposal by Cboe EDGA to implement an asymmetric speed bump on a U.S. stock exchange¹ has faced criticism from a broad range of financial market participants, including asset managers,² broker-dealers,³ trading firms,⁴ and financial market advocacy groups,⁵ as well as the Committee on Capital Markets Regulation (“the **Committee**”).⁶

In securities markets, a speed bump generally refers to an intentional time-delay between the receipt of an order and its execution by a marketplace. The terms of an order (e.g. price or quantity) cannot be revised during the time-delay. The order also cannot be cancelled during the time-delay.⁷ Speed bumps can either be *symmetric*, whereby the delay is imposed equally to all market participants and all orders, or *asymmetric*, whereby the delay is *not* imposed equally on certain exchange-designated market participants *or not* imposed on certain order types. Asymmetric speed bumps confer an unequal trading advantage on exempt market participants that have additional time to obtain and react to market information that is unavailable to other market participants that are subject to the speed bump/time-delay.

The Committee has repeatedly noted its opposition to asymmetric speed bumps in U.S. equity markets.⁸ We believe such speed bumps as they have been proposed confer unequal trading

¹ SEC Release No 34-86168, Jun. 20, 2019.

² See e.g. Comment letter from T. Rowe Price, Jul. 17, 2019; also see e.g. Comment letter from BlackRock, Aug. 2, 2019.

³ See e.g. Comment letter from RBC Capital Markets, Aug. 15, 2019.

⁴ See e.g. Comment letter from Citadel Securities, July 17, 2019; also see e.g. Comment letter from Hudson River Trading, July 17, 2019.

⁵ See e.g. Comment letter from Managed Fund Association, Aug. 2, 2019; also see e.g. Comment letter from SIFMA, July 18, 2019; also see e.g. Comment letter from Healthy Markets Association, July 16, 2019.

⁶ Comment letter from the Committee on Capital Markets Regulation, July 17, 2019.

⁷ See e.g. SEC Release No 34-86168, Jun. 20, 2019 (“Cancel messages for liquidity taking orders that are being processed by the delay mechanism would instead be queued and applied to the remaining quantity of the order after the order has exited the delay mechanism and executed against any resting orders on the EDGA Book.”).

⁸ See e.g. Committee on Capital Markets Regulation, Comment Letter on U.S. Securities and Exchange Commission’s Notice of Proposed Interpretation Regarding Automated Quotations Under Regulation National Market System, 2 (Apr. 14, 2016), https://www.capmksreg.org/wp-content/uploads/2016/10/04_14_SEC_Proposed_Interpretation_comment_letter.pdf (“[Intentional delays] could distort markets and it is unclear whether selective application of intentional delays would be beneficial for long-term investors or the equity markets. Exchanges should therefore not be broadly permitted to adopt intentional delays. Instead, we believe that the SEC should evaluate the merits of each proposed intentional delay to protected quotes by an exchange and ensure that any such delays are equally applied to all market participants.”); see also e.g. Comment Letter from Committee on Capital Markets Regulation on U.S. Securities and Exchange Commission’s Notice of Filing of Proposed Rule Change to Adopt the Chicago Stock Exchange Liquidity Taking Access Delay (Oct. 13, 2016), <https://www.capmksreg.org/wp-content/uploads/2016/10/chx201616-6.pdf>; also see e.g. Comment Letter from Committee on Capital Markets Regulation on U.S. Commodity Futures Trading Commission’s Industry Filing IF-19-001 (Mar. 14, 2019), https://www.capmksreg.org/wp-content/uploads/2019/03/3_14_19_CFTC_Comment-

privileges to a sub-class of market participants that are exempt from the speed bump while potentially harming market quality and U.S. equities investors overall. In this Nothing But The Facts statement, we seek to clarify four key facts about asymmetric speed bumps.

1. **Asymmetric speed bumps are unprecedented on U.S. stock exchanges.**
2. **Asymmetric speed bumps confer an advantage on a select group of traders.**
3. **Asymmetric speed bumps can lead to “last look” liquidity.**
4. **Asymmetric speed bumps increase market complexity.**

Fact #1: Asymmetric speed bumps are unprecedented on U.S. stock exchanges.

While *symmetric* speed bumps have been implemented on a limited scale in global equity markets,⁹ an *asymmetric* speed bump currently exists in only one small stock exchange – the TSX Alpha exchange in Canada, which imposes a random, 1 to 3 millisecond speed bump on “all orders that have the potential to take liquidity” and exempts resting limit orders.¹⁰ Similarly, the proposed Cboe EDGA asymmetric speed bump would impose a 4-millisecond speed bump on liquidity-taking orders, while exempting liquidity-providing orders (e.g. resting limit orders) from the delay.¹¹ In both scenarios, cancellation of resting limit orders can occur immediately and are not subject to the speed bump.¹²

The lone previous attempt at implementing an asymmetric speed bump in a U.S. stock exchange was abandoned. In February 2017, the Chicago Stock Exchange (now NYSE Chicago) filed a proposed rule change with the SEC, seeking to implement an asymmetric speed bump on a pilot basis.¹³ Under the proposal, the exchange would have subjected new incoming orders and order cancellations to a 350-microsecond delay – except for new passive orders and cancellations submitted by certain exchange-designated market makers.¹⁴ Ultimately, lacking timely SEC approval, the Chicago Stock Exchange abandoned its asymmetric speed bump proposal in July 2018.¹⁵ Similarly, a 2012 proposal to add a five millisecond delay on marketable orders on

Letter_IF_19-001.pdf; *also see e.g.* Comment Letter from Committee on Capital Markets Regulation on U.S. Securities and Exchange Commission’s Notice of Filing of a Proposed Rule Change to Introduce a Liquidity Provider Protection on EDGA (July 17, 2019), <https://www.sec.gov/comments/sr-cboeedga-2019-012/srcboeedga2019012-5818319-187472.pdf> (“As the Committee previously noted to the SEC ... asymmetric speed bumps ‘could distort markets and . . . [e]xchanges should . . . not be broadly permitted to adopt intentional delays.’ We communicated our view that any intentional delays should be ‘equally applied to all market participants.’”).

⁹ Examples include IEX and NYSE American.

¹⁰ TSX Alpha Exchange, “Overview of TSX Alpha Exchange,” *available at* <https://www.tsx.com/resource/en/1190/overview-of-tsx-alpha-exchange-2016-01-27-en.pdf>. We note that stock quotations on the TSX Alpha exchange are not “protected”.

¹¹ SEC Release No. 34-86168, Jun. 20, 2019.

¹² *See* TSX Alpha Exchange, “Overview of TSX Alpha Exchange,” *available at* <https://www.tsx.com/resource/en/1190/overview-of-tsx-alpha-exchange-2016-01-27-en.pdf>; *see also* SEC Release No. 34-86168, Jun. 20, 2019.

¹³ *See* Federal Register Vol. 83, No. 195, Oct. 9, 2018.

¹⁴ *See* SEC Release No. 34-81913, Oct. 19, 2017.

¹⁵ While the proposed rule was initially approved by the Division of Trading and Markets on October 17, 2017, the Secretary of the SEC notified the Chicago Stock Exchange it would review the approval order and this order was

NASDAQ OMX PSX (“PSX”), with updates or cancellations received during the delay on resting orders to be processed immediately,¹⁶ was later withdrawn.¹⁷

The abandoned Chicago Stock Exchange and PSX speed bumps and the current Cboe EDGA proposal represent the only attempts to implement an asymmetric speed bump in U.S. equity markets to date. Other instances of speed bumps in the U.S. equity markets have been *symmetric* speed bumps, such as IEX¹⁸ and NYSE American.¹⁹ Although NYSE American adopted a *symmetric* speed bump in 2017, the exchange recently removed its 350-microsecond delay.²⁰ NYSE American noted that “the promise of the speed bump has proven greater than its reality. The data is clear: NYSE American securities trade better ... without an intentional delay mechanism.”²¹ Overall, U.S. equity markets are not trending toward the adoption of asymmetric speed bumps.²²

Fact #2: Asymmetric speed bumps confer an advantage on a small select group of traders.

As noted earlier, a speed bump can be asymmetric in multiple ways—exempting certain exchange-designated market makers from the speed bump or exempting the submission, cancellation, or modification of certain order types from the speed bump. Below we describe how

stayed on October 24, 2017. The following month the SEC issued a scheduling order to allow for additional statements to be filed. The proposed rule was then withdrawn by the Chicago Stock Exchange on July 25, 2018. United States of America before the Securities Exchange Commission, In the Matter of Chicago Stock Exchange, Inc., File No. SR-CHX-201704, Order Setting Aside the Order by Delegated Authority Approving SR-CHX-201704, Oct. 2, 2018.

¹⁶ See SEC Release No. 34-67680, Aug. 17, 2012.

¹⁷ See SEC Release No. 34-67780, Sept. 5, 2012.

¹⁸ See SEC Release No. 34-78101, Jun. 17, 2016 stating that “[a]ccording to IEX, when the length of the coil is combined with the physical distance from the POP to the IEX trading system in Wehawken, it equates to an equivalent 350 microseconds of latency. All incoming messages (e.g., orders to buy or sell and any modification to a previously send open order) from any User would traverse the coil from the POP in order to initially reach IEX.” However, the SEC also notes that IEX does not apply the delay to resting pegged orders (“IEX imposes an additional delay on Users’ ability to access IEX’s matching engine but the delay does not apply to IEX’s adjustment of resting pegged order prices on its book,”) at 51; *and see e.g.* Comment letter from Tabb Group, Jul. 16, 2019 (noting that “[t]he IEX and NYSE American speedbumps are double sided, impacting both liquidity providing and liquidity taking orders, whereas the Cboe [speed bump] is for liquidity taking only.”); *and see e.g.* Citadel comment letter, *supra* note 4 (noting that “[t]he speed bumps implemented by the Investors Exchange (‘IEX’) and NYSE American LLC (‘NYSE American’) are fundamentally different from the *asymmetric* speed bump proposed by EDGA. To date, no asymmetric speed bump has been implemented in the U.S. equities market.”).

¹⁹ See SEC Release No. 34-80700, May 16, 2017 stating that “[t]he Exchange’s proposal to apply the [350 millisecond delay] to all inbound communications... would cover all incoming orders, as well as any requests to cancel or modify a resting order,” at 4.

²⁰ See Filing by NYSE American LLC to Securities and Exchange Commission, Proposal to amend Rule 1.1E and 7.29E to eliminate Delay Mechanism and amend Rule 7.31E, Nov. 4, 2019, *available at* <https://www.nyse.com/publicdocs/nyse/markets/nyse-american/rule-filings/filings/2019/SR-NYSEAmer-2019-48.pdf>.

²¹ See NYSE, *NYSE American to Eliminate Speed Bump, Restore Floor-Based Trading*, Equities | Options Sharing Data-Driven Insights, Nov. 1, 2019, *available at* <https://www.nyse.com/equities-insights#20191101>.

²² Contrary to a recent article by Alexander Osipovich, “More Exchanges Add ‘Speed Bumps,’ Defying High-Frequency Traders,” *The Wall Street Journal*, Jul. 29, 2019.

market participants can exploit asymmetric speed bumps in a manner that harms overall market quality and investors.

Suppose an equity investor submits an order on the Cboe EDGA exchange to purchase stock at the current ask price, for example \$100. Cboe EDGA holds the investor's order for 4-milliseconds before attempting to match it with resting orders on the EDGA marketplace. During the 4-millisecond delay period, the investor cannot cancel or modify the order; however, due to the asymmetric Cboe EDGA speed bump, a market maker would be able to cancel or modify its resting orders to adjust for price movements during the 4-millisecond window. If market prices increase above \$100, then the market maker would cancel a \$100 quote and increase its ask price, thus forcing the investor to pay a higher price. The asymmetric speed bump effectively grants the market maker a free option to only stand behind its purportedly firm, displayed quote when it sees fit – and at the investors' expense.

In the case of the Cboe EDGA proposal, the primary beneficiaries of the speed bump are sophisticated short-term traders with the resources and infrastructure to exploit the 4 millisecond advantage – a group that includes the few proponents of the asymmetric speed bump.²³

Fact #3: Asymmetric speed bumps can lead to inaccessible “last look” liquidity.

Market participants that are exempt from asymmetric speed bumps are able to pull liquidity when an order is submitted, thereby giving the illusion of firm liquidity that disappears before the quote can be accessed. Chen et al. examined the impact of asymmetric speed bumps on TSX Alpha liquidity, confirming empirically that market makers are indeed more likely to offer “last look” liquidity with the speed bump in place.²⁴ The study finds that prior to the implementation of the speed bump, 85% of the volume quoted on the Alpha exchange could actually be accessed by liquidity takers, such as retail and institutional investors.²⁵ That is, for every 100 shares of volume posted on the Alpha exchange, 85 shares could actually be accessed by a liquidity-taking order, while 15 shares would disappear between order submission and execution. However, upon implementation of the asymmetric speed bump, only 34% of volume displayed on Alpha could actually be accessed by investors.²⁶

Fact #4: Asymmetric speed bumps increase market complexity.

Asymmetric speed bumps would complicate broker-dealer routing decisions, because broker-dealers would lack certainty that the best publicly displayed price on the consolidated market data feeds²⁷ or at a trading venue with an asymmetric speed bump is in fact accessible.

²³ See e.g. Comment letters from XTX Markets LLC, Jul. 17, 2019, Jul. 31, 2019 & Oct. 18, 2019; and see e.g. Comment letter from CTC, LLC., Jul. 15, 2019.

²⁴ Haoming Chen, Sean Foley, Michael Goldstein and Thomas Ruf, *The Value of a Millisecond: Harnessing Information in Fast, Fragmented Markets*, Working Paper (Nov. 18, 2017), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2860359.

²⁵ Id at 15-16.

²⁶ Id at 15-16.

²⁷ While the Cboe EDGA proposal would make the marketplace unprotected for purposes of Reg NMS Rule 611, Cboe EDGA intends to continue publishing its quote in the consolidated market data feeds and have the quotes flagged as ‘manual’. See SEC Release No 34-86168, Jun. 20, 2019 at 8-9.

Since the best publicly displayed price is often unavailable, asymmetric speed bumps would also complicate transaction cost analyses for institutional investors that rely on best publicly displayed prices to determine whether their broker-dealers are obtaining best execution for their orders.

In addition, the proliferation of varying asymmetric speed bumps across multiple exchanges (which would be likely if a precedent-setting approval is granted to Cboe EDGA) would cumulatively make displayed liquidity more fragile and fleeting. Dislocations in stressed or volatile market conditions could be more severe as such asymmetric speed bumps could trigger a cascading wave of quote fading and cancelations across multiple exchanges.