March 26, 2020

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VIA ELECTRONIC MAIL

Ms. Vanessa Countryman
Secretary
U.S. Securities and Exchange Commission
100 F Street NE
Washington, DC 20549

Re: Investors Exchange LLC Notice of Filing of Proposed Rule Change to Add a New Discretionary Limit Order Type (Release No. 34-87814; File No. SR-IEX-2019-15)

Dear Ms. Countryman:

Nasdaq, Inc. ("Nasdaq") writes to respond to a comment letter (the "Response") that the Investors Exchange LLC ("IEX") filed with the Securities and Exchange Commission ("SEC" or "Commission") on February 13, 2020[1] regarding IEX's proposal to introduce a new "Discretionary Limit" or "D-Limit" order type.[2] In its Response, IEX attempts to parry concerns that Nasdaq, in its initial comment letter,[3]and others have raised to the Proposal, including by alleging that the business practices of other exchanges and proprietary trading firms justify its actions. However, as Nasdaq discusses in further detail below, IEX fails to justify the Proposal as a reaction to conditions that exist on its own market. IEX also fails to confront the reality that the Proposal will cause quote fading, and that such quote fading will endanger the markets, particularly in turbulent times and if other exchanges adopt similar order types.

IEX Fails to Demonstrate that Conduct Occurring on its Own Market Justifies D-Limit

Rather than confront valid and serious concerns that D-Limit will cause quote fading, IEX responds principally by deflecting these concerns and focusing instead upon allegations that Nasdaq and other exchanges already permit implicit quote fading to occur on their markets. Specifically, IEX alleges that its competitors afford latency arbitrageurs systematic advantages – in the form of low-latency connectivity options, high-speed trading protocols, and proprietary

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1 See Letter from Mr. J. Ramsay, Chief Market Policy Officer, IEX to Ms. V. Countryman, Secretary, SEC (February 13, 2020).

2 See Securities Exchange Act Release No. 34-87814 (December 20, 2019), 84 FR 71997 (December 30, 2019) (SR-IEX-2019-15) (the "Proposal"). On February 12, 2020, the SEC extended its February 13, 2020 deadline for acting on the Proposal to March 29, 2020. See Securities Exchange Act Release No. 34-88186 (February 12, 2020), 85 FR 9513 (February 19, 2020).

3 See Letter from Ms. J. Conley, Corporate Secretary, Nasdaq, Inc., to Ms. V. Countryman, Secretary, SEC (January 21, 2020) (the "Initial Nasdaq Comment Letter").

market data feeds– that enable these arbitrageurs to access quotes before other market participants, such that the quotes are effectively inaccessible to anyone other than these arbitrageurs. IEX also asserts that broker-dealers are defenseless and unable to compete against the proprietary trading firms that engage in latency arbitrage.

As a threshold matter, these allegations mischaracterize the nature of Nasdaq's business and the behaviors of its members. Nasdaq operates free and fair markets that are accessible to and stand to benefit all of its members. Nasdaq does not systematically advantage or disadvantage any class of market participant. Nasdaq offers various connectivity options, messaging protocols, and proprietary data products, but contrary to what IEX asserts in the Response, Nasdaq offers them to all of its members, rather than only to particular classes of members. Moreover, Nasdaq does so to give its members the flexibility to choose how they wish to participate in the market. Nasdaq's members, in turn, make choices based upon the nature of their respective business models and how and where they wish to compete. In sum, Nasdaq provides markets where diverse classes of members interact and thrive in diverse ways. Some broker-dealers choose to compete with proprietary trading firms, and purchase data and connectivity products that allow them to do so, while others choose not to do so. Those that are concerned about adverse selection have a variety of tools and trading strategies available for use in defending themselves. IEX's portrayal of Nasdaq as having created a killing field for helpless providers of displayed liquidity makes for a compelling narrative, but it is a fictional one.

Even if IEX's allegations against its competitors were true, however, they still would be irrelevant to this Proposal. IEX's responsibility is to justify why its own proposed actions are consistent with the Securities Exchange Act of 1934 (the "Act"),[4] not to complain that the actions of others are inconsistent with the Act.

For similar reasons, IEX falters when it argues that latency arbitrage occurring on other exchanges justifies it in introducing D-Limit on IEX to combat such practices. Indeed, IEX fails to demonstrate that latency arbitrage is a problem on its own market. As IEX is fond of noting, it has designed its market in a manner that avoids affording speed-based advantages to liquidity takers; in fact, it employs a speed bump for this purpose.[5] If IEX offers latency arbitrageurs no systemic advantages on its market, then there is seemingly no justification for IEX to introduce D-Limit to counter such advantages, and for discriminating against liquidity takers in the process.

As purported evidence of latency arbitrage occurring in its market, IEX asserts that in September 2019, it received a significant percentage of its orders immediately prior to the onset

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[4] 15 U.S.C. 78a, et seq.

[5] See Proposal, supra, 84 FR at 71998 ("Since before and after it became an exchange, IEX has sought to design its market in a way that creates a transparent and level playing field where both investors and market professionals can participate and have confidence in the fairness of the system. In general, these aspects of our market involve ways to counter or reduce speed advantages that can harm investors by exposing them to execution at stale prices when their orders are traded against by traders with more complete and timely information about market prices.").

of price movements that were adverse to resting displayed orders,[6] and that firms it categorizes as proprietary trading firms were several times more likely to submit orders at such times.[7] Nevertheless, IEX only surmises, but it does not demonstrate conclusively, that nature of the trading activity in which these firms engaged while the CQI was on in September 2019 constituted latency arbitrage, as opposed to other types of trading activity.[8] Even if IEX's surmise is correct, it has asserted that only three firms were responsible for taking 55% of displayed orders during periods of crumbling quotes in November 2019 — a statistic that is hardly indicative of a widespread problem.[9] Indeed, IEX admits in the Response that "the overwhelming majority of liquidity seekers, including all investors, are not seeking to trade as part of a microsecond level latency arbitrage strategy."[10] Nasdaq notes that the Commission, in the recent order disapproving the EDGA asymmetric speed bump, expressed a similar concern that EDGA failed to produce evidence that latency arbitrage was occurring in its market or that

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[6] See Proposal, supra, 84 FR at 72002.

[7] See id.

[8] As Nasdaq noted in the Nasdaq Initial Comment Letter, IEX acknowledged in a blog post that not all proprietary trading firms are engaged in latency arbitrage. See Eric Stockland, *A Deliberate Strategy*, Medium, December 17, 2019, at https://medium.com/boxes-and-lines/a-deliberate-strategy-bb8b0cff074b ("To reiterate, not all proprietary trading firms are running these [latency arbitrage] strategies. In fact, many of the leading proprietary trading firms are bona fide market makers whose liquidity is critical to pre-trade price discovery. Ironically, as much technical and financial sophistication as it takes to compete as a market maker, they still end up adding while the [CQI] Signal is "on," and their average execution quality suffers from these trades.").

[9] See id. In the Response, IEX objected to Nasdaq's suggestion that only three firms appear to engage in latency arbitrate on IEX while the CQI was on, but IEX acknowledged that the population of firms that does so is small. See Response, supra, at 14 (stating that taking occurs among "a small number of firms"); id. at 3 (acknowledging that IEX intends for D-Limit to help liquidity providers to counteract "the few participants that can take liquidity using the most sophisticated tools").

[10] See Response, supra, at 9. Ironically, IEX cites the fact that latency arbitrage is minor problem on its market as a basis for countering Nasdaq's argument that distinguishing ordinary limit orders from D-Limit orders in market data feeds is unnecessary to protect liquidity seekers from engaging in fruitless interactions with fade-prone D-Limit liquidity. See id. IEX's response misses the point of Nasdaq's call for labeling D-Limit orders as such — although many liquidity seekers may not, in fact, care about the propensity for D-Limit liquidity to fade due to the fact that they don't trade while quotes crumble, IEX should not presume that all liquidity seekers are indifferent to the prospect of liquidity fading, and it is unfair to deprive those that do care of their ability to identify D-Limit liquidity as such and to avoid interacting with it.

any such arbitrage was significant enough to warrant EDGA employing a countermeasure that was patently discriminatory against liquidity takers.[11]

IEX is also misguided in citing a recent study authored by the United Kingdom's Financial Conduct Authority (the "FCA") in which the FCA concluded that latency arbitrage imposes an implicit $5 billion tax on investors globally.[12] This FCA study has been roundly criticized for extrapolating broad and sweeping conclusions from only two months of stale trading data taken from only one securities exchange in one foreign jurisdiction.[13] To the extent that this study has any probative value whatsoever, it is limited to the effects of high frequency trading on the London Stock Exchange in 2015; the study demonstrates absolutely nothing about the current trading environment on IEX.

IEX Fails to Acknowledge that Quote Fading Would Be Problematic

IEX suggests that quote fading is an illusory problem for D-Limit because circumstances exist today in which displayed quotes disappear before incoming orders can access them, including when other participants access the quotes first, the quotes are cancelled, or when they are modified.[14] However, this argument conflates the type of quote inaccessibility which arises from these circumstances with the type of inaccessibility which would arise from D-Limit.

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[11] See Securities Exchange Act Release No. 34-88261 (February 21, 2020), 85 FR 11426, at 11432 (February 27, 2020) (the "EDGA Disapproval Order") ("The limited empirical information provided by the Exchange does not adequately demonstrate either the extent of the problem of latency arbitrage that the Exchange seeks to address or that the proposal would be sufficiently tailored to address the identified problem."); id. (the Commission also faulted EDGA for failing to "demonstrate the extent to which latency arbitrage is a problem on its market or how the proposal is tailored to the problem…."); id. at 11436 ("For instance, as discussed above, the Exchange has not provided support for a fundamental premise of this proposed rule change—that liquidity takers use the latest microwave connections and EDGA liquidity providers use traditional fiber connections, and liquidity takers are able to use the resulting speed differential to effect latency arbitrage on the Exchange. The Exchange does not differentiate between latency arbitrage and other trading activity such as hedging activity by ETFs or options liquidity providers.").

[12] See Aquilina, Budish, and O'Neill, "Quantifying the High-Frequency Trading 'Arms Race'; A Simple New Methodology and Estimates" (January 202), available at https://www.fca.org.uk/publication/occasional-papers/occasional-paper-50.pdf.

[13] See Wall Street Journal, "Ultrafast Trading Costs Investors Nearly $5 Billion a Year, Study Says" (January 27, 2020), available at https://www.wsj.com/articles/ultrafast-trading-costs-stock-investors-nearly-5-billion-a-year-study-says-11580126036?ns=prod/accounts-wsj (citing criticism of the study by the Modern Markets Initiative).

[14] See Response, supra, at 7.

Inaccessibility that ensues after a quote executes against an incoming order is the natural byproduct of the trading process. Similarly, quote inaccessibility that occurs after a participant cancels or modifies a quote typically is not a concern given that in most situations, bona fide reasons exist to allow participants to cancel or modify their quotes, and because exchanges make such functionalities available to all market participants, without intending to advantage or disadvantage any particular category of market participant. Moreover, all market participants clearly understand and expect that quotes may become inaccessible for these reasons.

With D-Limit, by contrast, IEX would purposefully fade quotes to the express advantage of liquidity providers who use the D-Limit order type and to the express disadvantage of both liquidity seekers and liquidity providers who do not use the D-Limit order type. Further, IEX would do this based upon its judgment– one which is hardly consistent with the notion of fair and open access – that the former are defenseless victims that deserve its protection, while the latter are predators that deserve to be defeated. And it would do so in a manner that renders liquidity providers unable to compete if they choose not to use D-Limit. The concern with D-Limit, in other words, is that it would cause quotes to become inaccessible in a systematically discriminatory fashion.

Similarly, the type of quote inaccessibility that would result from D-Limit clearly is not the same as that which results now when pegged orders re-price in response to shifts in the NBBO.[15] As Nasdaq stated in its Initial Comment Letter, a meaningful distinction exists between: (a) inaccessibility following a price change that occurs in reaction to an observable shift in circumstances; and (b) inaccessibility following a price change which happens in anticipation of a shift in circumstances that IEX merely predicts will occur and which IEX adjudges would adversely affect a particular category of participants. Moreover, unlike pegged orders, D-Limit is designed for the express purpose of rendering displayed quotes inaccessible. And again, unlike pegged orders, D-Limit would fade quotes as a means of harming a class of market participants for which it has ideological antipathy – a discriminatory act that runs contrary to IEX's duty as an exchange to offer fair and open access to all market participants.[16]

Meanwhile, IEX understates the potential impact that quote fading associated with D-Limit could have on price discovery. Nasdaq notes that price discovery often occurs, not during periods of quote stability, but rather during periods of instability and, in particular, in the milliseconds surrounding changes to the NBBO. By allowing D-Limit quotes to fade during

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[15] See Letter from Mr. P. Berlinksi, Co-CIO, Goldman Sachs & Co., to Ms. V. Countryman, Secretary, SEC, at 2 (February 26, 2020).

[16] It is worth noting that in its Response, IEX inaccurately characterized a change in the NBBO, which triggers changes to order prices pegged to the NBBO, to be a sequence of events. In fact, a shift in the NBBO is a discrete event though a series of prior events may lead up to it.

such time periods,[17] IEX threatens to distort and corrupt the price discovery function that is essential to its role as an exchange.

IEX's Data Purporting to Demonstrate the Limited Impact of D-Limit Misses the Point

In the Response, IEX also tries to minimize any adverse effects of D-Limit by arguing that the quote fading it will cause will occur infrequently. That is, IEX argues that it will only re-price D-Limit orders while its Crumbling Quote Indicator ("CQI") is active (i.e., when the CQI forecasts imminent quote instability), and it asserts that the CQI has been active historically, on average, only for a few seconds during the trading day for symbols traded on IEX. [18]

The mere fact that quote fading may occur infrequently during the trading day does not solve the underlying problem that it would occur at all. As IEX itself acknowledges, a substantial amount of its displayed trading volume occurs during the narrow windows of time during which the CQI is active. [19] Thus, the extent to which quote fading actually occurs on IEX may prove to be significant even though the temporal windows of opportunity for quote fading to occur may be small.[20] To the extent that other exchanges, with far deeper pools of displayed

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17 See Phil Mackintosh and Ka Wo Chen, "The Need for Speed V: How Important is 1 ms?," at https://nanopdf.com/download/report-5b314d0b5606a_pdf.

18 See Response, supra, at 1-2 (asserting that the CQI historically has been active for 5-10 seconds on average per stock per 6.5 hour trading day).

19 See Proposal, supra, at 71999 (stating that in September 2019, 24% of displayed volume on IEX was executed when the CQI was on).

20 In any event, IEX fails to provide convincing evidence that quote fading, in fact, will be an infrequent occurrence with D-Limit. In the Initial Nasdaq Comment Letter, Nasdaq raised a concern that the data IEX cited in support of its Proposal was inadequate to support this claim. In the Response, IEX produced additional month of historical data (from December 2018), but this additional data still only showed the average time that the CQI was on during that month for each of the 8,000 symbols that trade on IEX, rather than symbol-by-symbol data. As Nasdaq noted in the Initial Nasdaq Comment Letter, it is impossible for the Commission to assess the true impact of D-Limit without more granular data. Averaged statistics may mask cases where the CQI was active for far longer periods of time for particular symbols or categories of symbols.

Even assuming that the figures that IEX produced were, in fact, representative of CQI activity for all symbols, these statistics are not comforting. Instead, they show that for the most actively traded symbols on IEX (those with average daily trading volumes of 1 million or more shares), the time during which the CQI was operational was more than four times that of symbols with average daily volumes of between 200,000 and 1 million shares, more than eight times that of symbols with average daily volumes of between 50,000 and 200,000 shares, and more than 12 times that of symbols with average daily volumes of less than 50,000 shares. See Response, supra, at 15.

Moreover, IEX's decision to provide one additional month of CQI data does not suffice to rebut criticism that IEX has cherry-picked its supportive data. Valid questions remain

liquidity than IEX, adopt a D-Limit order type, the extent to which such quote fading occurs, and its harmful effects, will amplify significantly.

The Design of D-Limit is Unfairly Coercive

Implicit in the Proposal is the troubling fact that any market participant concerned about the risk of D-Limit quotes fading on them can mitigate that risk only by placing IEX at the top of their routing tables. That is, the CQI observes and responds to price changes that occur first on other markets, such that the CQI will not activate, and D-Limit quotes will not fade, to the extent that price changes occur on IEX first. It is inconsistent with the concept of a fair and orderly market for an exchange to coerce market participants to route orders to it first to avoid incurring adverse results that the exchange itself has otherwise created.

Similarly, the design of D-Limit is unfairly coercive because it will effectively penalize liquidity providers that choose not to utilize it. Those who submit regular limit orders to IEX would not be able to compete effectively with those that submit D-Limit orders because the former would be subject to IEX's speed bump when repricing their orders, whereas the latter would not be so.

IEX Understates the Potential Adverse Impacts of D-Limit if Additional Exchanges Adopt It

In Nasdaq's Initial Comment Letter, Nasdaq argued that if the Commission approves IEX's Proposal, then other exchanges would likely follow suit by seeking to introduce their own versions of D-Limit, and that mass adoption of D-Limit would exacerbate the threats that it poses to the markets, particularly in times of market instability and turbulence. In the Response, IEX dismisses this argument by asserting that Nasdaq's concerns are speculative, and that the positive impact of widespread D-Limit adoption would outweigh the perceived negative ones.

In light of current market conditions, which feature historically high and persistent levels of volatility, Nasdaq believes that IEX should not be cavalier in dismissing concerns about an order type that could cause displayed liquidity to vanish during the times when it is needed most. Moreover, if D-Limit becomes widely available, and if, as discussed above, incentives are such that it becomes ubiquitous, then the market that ensues for displayed liquidity will have only a veneer of enhanced quality, but it will be fragile underneath. Moreover, the market would be bereft of price-setting limit orders, as D-Limit quotes would be apt to free-ride off of the bids of others. In other words, D-Limit would diminish the incentive for market participants to compete to set new prices and tighten spreads.

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as to why IEX presented data from two non-consecutive one month time periods, rather than data covering the entire short history of the existence of the CQI, and why IEX chose these two months, in particular. Nasdaq notes that the Commission cited similar data deficiencies when it recently disapproved the EDGA asymmetrical speed bump proposal. See EDGA Disapproval Order, supra, 85 FR at 11432.

The Benefits Associated with Increasing Displayed Liquidity Do Not Justify the Use of Unfairly Discriminatory Tactics to Achieve Them

In the Response, IEX argues that it is justified in aiding liquidity providers, through the introduction of D-Limit, because latency arbitrage provides a "powerful disincentive to the posting of displayed quotes by [liquidity providers], which has led to a long-term trend of declining displayed liquidity."[21] Putting aside the fact that IEX has put forth no evidence to suggest that any such long-term decline in displayed liquidity has occurred on its own market (which has been largely dark since its inception, notwithstanding the presence of its speed bump and other supposed speed-neutralizing measures), as well as studies showing that, in fact, displayed liquidity across U.S. equity markets has been stable over time,[22] IEX is not free to promote liquidity provision through any means necessary, and in particular, not through measures that would unfairly discriminate against liquidity takers. Indeed, Commission made this point clear in the EDGA Disapproval Order, when it stated as follows:

> The Exchange and supporting commenters also suggest that the proposal would not permit unfair discrimination because liquidity providers provide a valuable service to the market and assume disproportionate risks compared to liquidity takers. While the Commission agrees that liquidity providers add value to the markets and assume certain financial risks in providing liquidity, the Commission, for the reasons described above, concludes that the Exchange has not provided sufficiently detailed and specific analysis that demonstrates that the LP2 delay mechanism's benefits to liquidity providers makes the discriminatory impact on liquidity takers not unfair.[23]

The Proposed Pricing Structure for D-Limit Emulates the Maker-Taker Model of which IEX is Critical

In the Response, IEX disparages other exchanges, which it asserts offer speed-based advantages to latency arbitrageurs for fees, while it touts the fact that it proposes to offer D-Limit, and its protective features, at no additional charge to liquidity providers (relative to ordinary limit orders). Nasdaq observes that this pricing structure for D-Limit is akin to a hidden subsidy or rebate to incentivize liquidity providers to utilize it to add displayed liquidity to IEX. Such a rebate, when combined with IEX's existing CQI Removal Fee — which penalizes

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21 See Response, supra, at 1. See also Goldman Letter at 3 (arguing that the Commission has long recognized the importance of displayed limit orders in the national market system, and that IEX's Proposal has the potential to encourage the public display of limit orders).

22 See Citadel Securities, *Market Lens: Has Market Structure Evolution Made Equities Less Liquid?*, September 2019, available at https://s3.amazonaws.com/citadel-wordpress-prd101/wp-content/uploads/sites/2/2019/09/27211934/Market-Lens-Has-Market-Structure-Evolution-Made-Equities-Less-Liquid.pdf ("Our analysis shows that the full depth of displayed liquidity on US stock exchanges has remained remarkably stable over the past eight years).

23 See EDGA Disapproval Order, supra, 85 FR at 11435.

liquidity takers for removing liquidity while the CQI is active — creates a system that is analogous to the maker-taker model. Given IEX's vocal objections to Nasdaq and its competitors, expressly employing such a model to promote liquidity in their markets, Nasdaq finds it curious that IEX has no qualms about adopting a model that would accomplish the same thing, albeit implicitly. In any event, the difference between Nasdaq's market model and that of IEX is stark: whereas Nasdaq's system of incentives promotes liquidity that is genuinely and reliably accessible to its members – even in times of market turbulence, IEX's incentives do the opposite.[24] Thus, IEX's fee structure for D-Limit should be a matter of concern to the Commission.

Conclusion

Nasdaq appreciates IEX's eagerness to obtain the Commission's approval of D-Limit, as is evidenced by IEX's aggressive recruitment of supportive industry comments. Clearly, IEX hopes that its Proposal will finally succeed in introducing a meaningful volume of lit quotes onto its market, which thus far has operated largely in the dark.

Nevertheless, IEX's proposal is beset with many of the same issues that led the SEC to disapprove the EDGA asymmetrical speed bump, including IEX's failure to demonstrate the existence and pervasiveness of latency arbitrage on its own market, its failure to show that its discrimination against liquidity seekers is fair, and its failure to acknowledge and appreciate the potential adverse impacts of its Proposal, not only on liquidity seekers, but also the national

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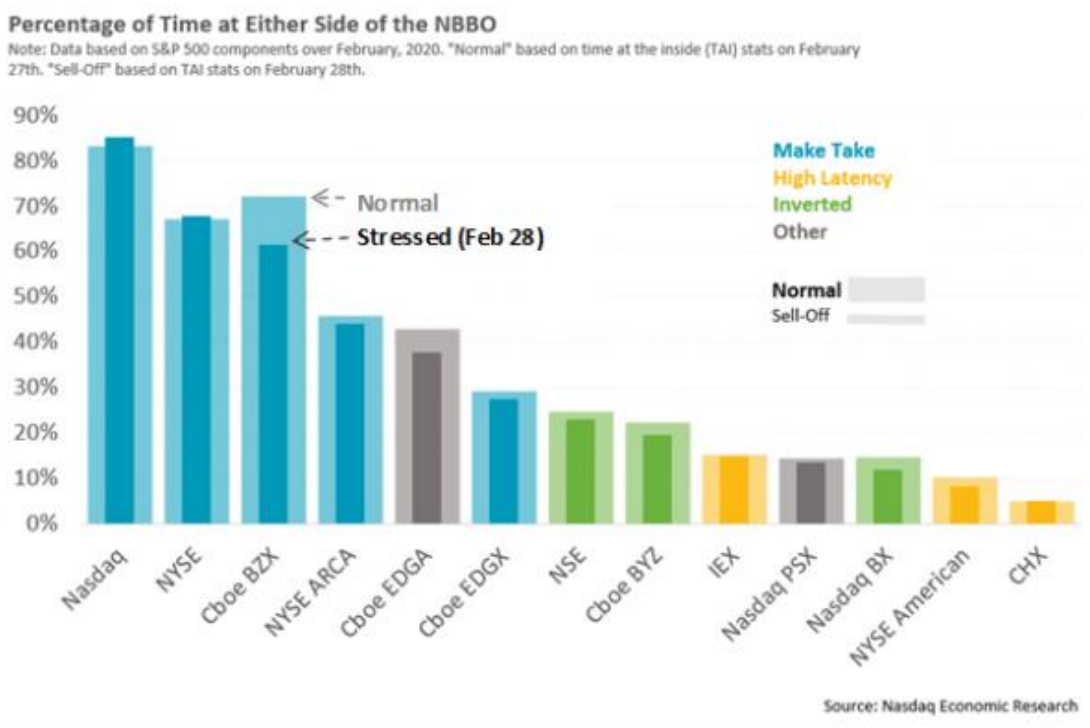
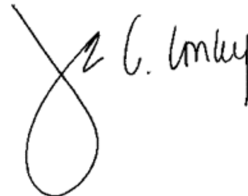
24 The chart below illustrates the high performance of Nasdaq's market model even during the current coronavirus crisis:



market system as a whole.[25] In sum, Nasdaq does not see how the Commission could conclude that the EDGA's speed bump was inconsistent with the Act and reach anything but the same conclusion with respect to IEX's D-Limit Proposal.[26]

Sincerely,



Joan Conley
Senior Vice President & Corporate Secretary

Cc: The Honorable Jay Clayton, Chairman, SEC
The Honorable Hester M. Peirce, Commissioner, SEC
The Honorable Elad L. Roisman, Commissioner, SEC
The Honorable Allison H. Lee, Commissioner, SEC
Director Brett Redfearn, Division of Trading and Markets

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[25] See EDGA Disapproval Order, supra, 85 FR at 11432 ("The limited empirical information provided by the Exchange does not adequately demonstrate either the extent of the problem of latency arbitrage that the Exchange seeks to address or that the proposal would be sufficiently tailored to address the identified problem"); id. at 11435 ("…the Exchange has not provided specific analysis or demonstrated that the proposed rule change would not permit unfair discrimination against liquidity taking orders that are not related to latency arbitrage"); id. at 11436 ("The Commission concludes that the proposal is discriminatory and the Exchange has not demonstrated that the proposal would not be unfair. The Exchange has not demonstrated that the proposal is sufficiently tailored to its stated purpose, which is to improve displayed liquidity on the Exchange by reducing the risk of adverse selection to liquidity providers, thereby potentially enabling liquidity providers to offer tighter quotes and greater size. For instance, as discussed above, the Exchange does not differentiate between latency arbitrage and other trading activity such as hedging activity by ETFs or options liquidity providers").

[26] Nasdaq wishes to note that although it objects to the design of this particular Proposal, it does not object categorically to delay mechanisms and related measures, and it believes their merits should be evaluated on a case-by-case basis. In this instance, Nasdaq's objections to the Proposal might differ if D-Limit quotes were to be unprotected.